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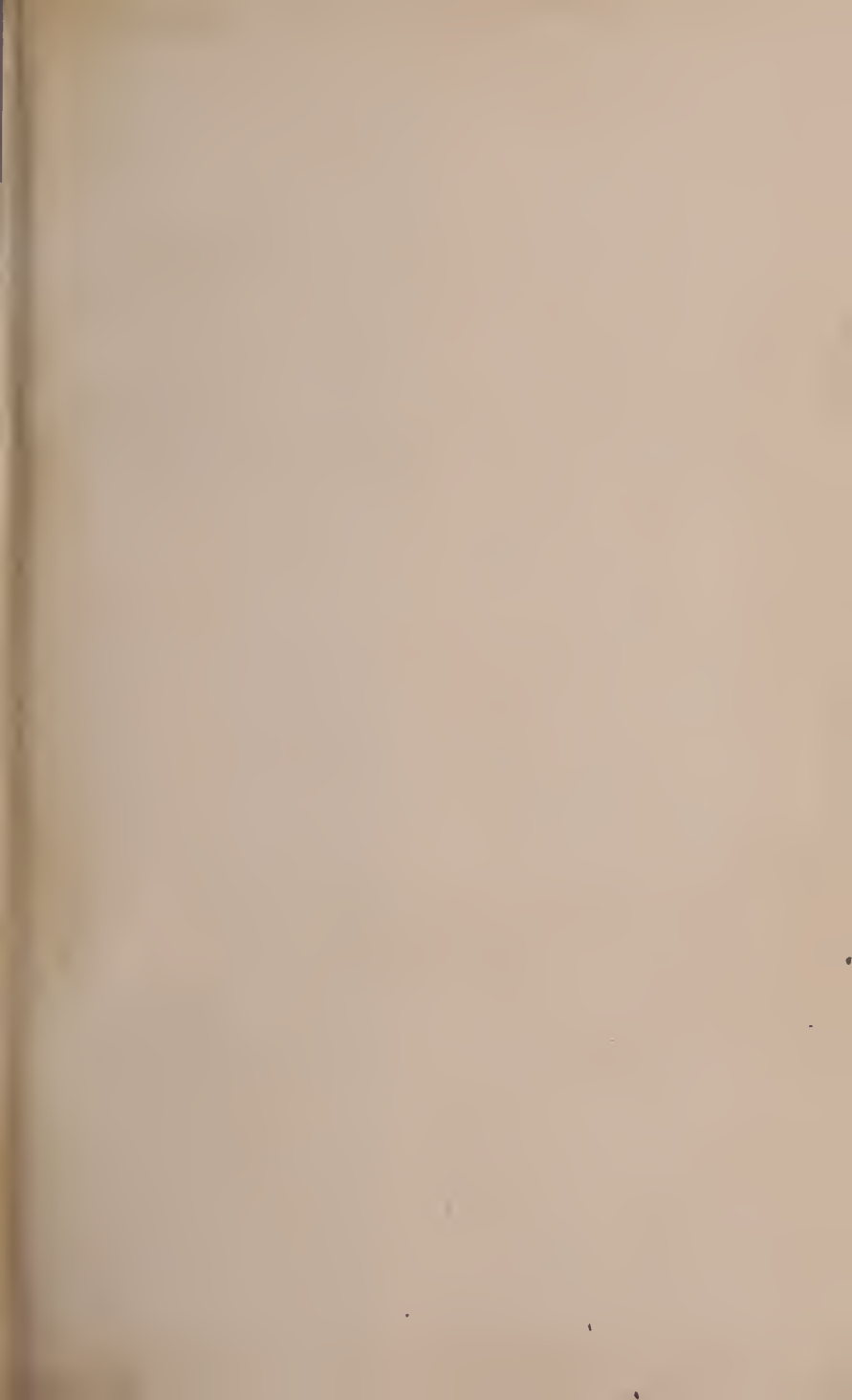
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ART. I.—*Extracts from the Narrative of an Expedition into the Naga territory of Assam.* By E. R. GRANGE, ESQ. *Sub-Assistant to the Commissioner, Assam.*

On the morning of the 5th January, 1839, I left my encampment below the village of Dikking, or Dhemra, with the detachment of Assam Seebundees at nine o'clock, and crossing the river entered a newly cut road which conducted us to the Dyung again, about half a mile above the village in a southerly direction, where we crossed the river, and found a very good path which brought us to the village of Somboo at 1 P. M., a distance of about nine miles. The first three-quarters of the road was through a flat country covered with forest trees and light underwood; the latter part the ground became undulating, and still covered with forest. Somboogong is a village consisting of about twenty or twenty-five large houses, situated on a low hill on the right bank of the Dyung river; the inhabitants are Cacharees, they cultivate lands on both sides of the river, but chiefly in Cachar, asserting that the soil on the left bank is of a more productive nature than on the east; several families here had formerly come from Semker, having left that place in consequence of the incursions of the Angamee Nagas.

The passage to Somboo from the Dyung-mook by water was said to be two days journey on account of the number of *Silbatahs*, or weirs.

The language of the Cacharees of this and all the other villages I met, was totally different from that of the inhabitants of the plain, though they all go by the same name; the Hill Cacharee is called *Hoje*, and that chiefly spoken on the plains called *Ramsa*.

January 6th. Having received an injury in my feet from the previous day's march, I took a boat from Somboogong to the next march, Patpoah, a tolerable village belonging to Toolaram Sanaputtee, situated on the east side of the river. Starting at 9 A. M. the Sepoys reached the halting place at about 3 P. M. having been fatigued by passing several tolerable sized hills; they told me the path was a good one, and they passed a large village of Mikeers called Hempree, the cultivation of which I saw on the river side. This day's journey was through Toolaram Sanaputtee's country.

The rapids or *Silbatahs* the natives spoke so much of to deter me from going by water, I found only to be of stones piled up for the purpose of fishing and deepening the water to enable the boats laden with cotton (some of which I saw on their way down) to pass the more easily, in other places there is abundance of water. The banks of the river are high, and at most places formed by low hills and some steep rocks; the distance by water is about fifteen miles, and by land eight or ten.

The elephants which had taken the route formerly traversed by Captain Jenkins, which we left two or three miles below Somboogong, joined us here.

January 7th. Starting from Patpoah at 9 A. M., we passed over some cotton grounds, and gradually ascended a range of hills running north and south, and after continuing along the summit of the ridge till 2 P. M., we descended by rather a steep path to the Langti river where, on account of the elephants not having come up, we were obliged to halt for the day; the road throughout was good, through bamboo forest.

The Langti is a rapid clear stream, of about thirty yards width knee-deep in the cold weather with a pebbly bottom.

January 8th. At 7° 45' A. M. left the Langti river, and ascended rather steep hill, and an hour afterwards left Captain Jenkins' road which we had met at Patpoah, and took a more easterly direction to Alogong, crossing the Dyung at a *Silbatah*, or weir, where the water rushed with a good deal of velocity. The distance to-day was only about five miles; but our next march being a long one, I was unable to go on further without distressing the men, as we should have found it difficult to have reached Chota-Semker in one day from the Langti river, and no other village or watering place was available. Boats come up to Alogong during the cold season, though they experience much difficulty at the Barrak ford from the rocks in the river, the boats requiring to be unladen and forced up empty. The road continues good to Alogong through bamboo and tree forests. Alogong consists of about twenty or thirty houses of Cacharees.

January 9th. Left Aloocong at 9 A. M. and ascended a ridge of hills running east-south-east; traversed them till they divided into two ridges, when taking the one to the right, in a south-west direction, reached the site of a Cacharee village, which had the appearance of having been burnt; from thence, by an undulating path, we came to a hill of good size at 12 P. M. and in about an hour afterwards reached Chota-Semker, which lay on our right, about 500 yards. It consists of about fifteen or twenty houses of Cacharees and Nagas; the latter had on account of some feuds left Bura-Semker, which is about two days march eastward. We halted about two miles beyond the village on a small stream; the elephants did not come up till late; the path throughout was good.

January 10th. Sending the elephants back from this place we set out at 8° 15' A. M. and crossing a small stream called Delasapanee, continued by a wavy path till 10 A. M. when we descended to the bed of the Dyung, where we met the Mohurir of the Tossildar of the Cachar Hills. From this our course was about south-south-east and south up the bed of the river, the repeated crossing of which rendered the marching both painful and dangerous, from the difficulty of keeping one's footing over the round slippery stones with which the river in every part abounds. At 1 P. M. we halted a short way beyond the village of Joori, which is a good sized one, and is inhabited by Cacharees and Kookees; it is on the left bank of the river. The road to-day was not so good, the latter part of it being in the course of the river.

January 11th. Started from Joorigong at 8 A. M. our route being the same as the latter part of the previous day—up the bed of the river, and the same difficulties were again experienced, which prevented our reaching the stockade under Goomegogoo till 12 P. M., though the distance is not more than five miles. I found the Shans in the stockade, who had arrived two days previous. Toolaram Sanaputtee had accompanied them. I requested him to send some person of his to Semker to prepare habitations and provisions, but he immediately offered to go himself if I gave him a guard, I therefore detached a Naick and ten Shans to accompany him. Finding that the Thannadar, who had only lately arrived, could give me but little information regarding the incursions of the Angamee Nagas, and finding no instructions waiting my arrival, I resolved, as Captain Burns's head quarters were only four days' journey off, to proceed to Silchar at once, to consult with that officer on the plan of future operations. This journey I commenced on the 13th January, taking with me a guard of one Naick and four Sepoys. Leaving the stockade at 9 A. M. we reached the Naga

village Mysumpa at 10 A. M., passing through which I reached the original site of the Thannah of Hoflong, close to the above village, which had been a short time before removed to its present location, Goomegooo, to protect from the Angamees the large Naga village of that name, four persons of which had been killed some time previous by them. Beyond the old site of the Thannah of Hoflong is the hill called by the Cacharees and Nagas *Honklong*, which by corruption has become Hoflong; passing over it the road descends to the bed of the Pytinga, a small river here flowing towards the south-west. Down its rocky bed we continued till we reached the Cacharee village of Poorah, on the left bank of the river, consisting of about twenty or twenty-five houses. The first part of the road was good, but became bad on entering the river.

January 14th. Leaving Poorahgong at 7° 45' A. M. we set out down the bed of the river as on the 13th till 9° 20' A. M., when we reached the Hagoosa-Deesa, a small stream running from its source at the summit of the Bura-Ail range in two branches, one falling north and one south. We quitted the Pytinga, and ascended by a very steep path the Bura-Ail range of hills; from the summit, which we reached at 10° 30' A. M. we descended by an easy path to the south side, and found two streams joining at the base, the Hagoosa-Deesa coming from the west, and the Mati-Deesa from the east. The great range is chiefly covered with large trees and light underwood; amongst the former I recognised the *Nageser* tree, of tolerable magnitude; I saw no bamboos on the higher ranges. Proceeding a short distance we encountered the Matura-Deesa, which flows from the eastward. Rising in the great range the Mati-Deesa empties itself into the Matura here. We continued down the bed of the Matura some short way, and then followed a bad path frequently up by water courses. At 12° 50' P. M. crossed a small mountain torrent called Ballon-Deesa, which runs over a bed of solid rock; at 3 P. M. reached the Goonmara-Deesa (*Deesa* signifies a small river in the Cacharee language) which is the only convenient halting place between the foot of the great range and the plains; we encamped here.

January 15th. Started at 7° 30' A. M. and about a couple of hours afterwards passed the Cacharee village of Lougerong, which remained on our right on a ridge of hills separated from those we were traversing by the Dhesema river, which flows into the Matura after receiving the Goonmara river. At 10° 25' ascended to the summit of the last elevated hill of the ridge, from whence a very fine prospect is enjoyed of the extensive level of the entire Cachar plain, with its numerous hamlets and sheets of rice cultivation. The road from hence to the



lower hills was steep. Having descended to them we passed through patches of deserted cultivations of the wandering Cacharees. At 2 P. M. crossed the Hogigugaw river a short way above its junction with the Kuttna, which river terminates in the Matura. At 3 P. M. we passed through the large Cacharee village of Gnabari, and here saw evident signs of improvement in the condition of the country. After crossing fine sheets of rice lands belonging to several villages of Bengallís and Muneeporees we arrived at the Bengallí village of Bhogurkonah and encamped. The fields of rice here appeared fine, but the ryots seemed to be less particular in the comfort of their *Khatts*, or farms, than the Assamese. They lived in fewer houses, which however were larger than those in Assam.

The absence of the useful and ornamental jack, tamool, and moon-gah trees made the appearance less rural and comfortable than the generality of the Assam farms.

January 16th. At 8° 30' A. M. crossed the Tecul or Degul river, and passing another swampy nullah, and some jungle, reached a cluster of low hills covered with small bamboos (*Bugul Bans*) over which we passed, and came to another sheet of rice land attached to some widely scattered Muneeporee hamlets.

The road was now south-south-west over the rice fields, till we reached the village of Oodarbund, on the right bank of the Matura river, a place of considerable importance, being the entrepôt to which the Cachar Nagas take down their cotton to barter it for salt, dried fish, conch shell, beads, &c. and I heard also for slaves, who are stolen from the weaker Naga villages; an infamous trade of this kind seems carried on in the hills of Cachar. The Nagas are particularly fond of the conch shells, which they cut up for neck ornaments, and which are valued at one rupee per shell. From Oodarbund we went across a fine plain of rice stubble to Mennabund, and then passed through a strip of jungle and recrossed the Matura; from this our road lay across rice fields of about a league in extent; we then ferried over the Barak river opposite Silchar, which we reached at 3 P. M. The Barak is a considerable river, evidently, from the broken state of its banks, liable to a very great rise of water in the rains.

January 17th. Captain Burns, who was absent on my arrival, returned this morning, and availing myself of his kindness, I remained till the 19th, and obtained much valuable information and assistance from him with regard to my future plans, &c. I recommended that the expedition should start immediately against the Angamees (who were supposed to be located a short way beyond Semker) with the party I had brought over from Assam, as great delay had occurred

in the arrival of arms for the levy, and there was no certainty when they might come, and as the season was fast approaching when troops would be of little service in mountains, like those inhabited by the Angamees. All the arms in Silchar were therefore put under repair, and about thirty muskets with bayonets, furnished weapons to an equal number of the levy, who, under a Jemadar, accompanied me back.

On the 19th I retraced my route of the 16th to Bhogurkonah, where we halted. The next day, the 20th, I followed my former route to Guabari, where the Bengallí coolies were to be relieved by Cacharces. The inhabitants of the village being all away on our arrival a great delay occurred, which obliged me to alter my course and make a circuit to Agoosagong to get good encamping ground, where we remained that day. The village consists of about fifteen or twenty houses inhabited by Cacharees, who cultivate the lower hills under the great range bordering the Cachar plain.

January 21st. Started from Agoosagong at 8 A. M., and ascended a high ridge adjoining the one we came by, and shortly afterwards regained the old road, along which we continued till we reached the Matura river, where we encamped. This route, I fancy, is impassable in the rainy season, as it is frequently up the bed of the river. A good one, however, might easily be made with little trouble, either at the foot of the hills or on their summits.

January 22d. Left at 8 A. M. and ascended the Bura-Ail range half an hour afterwards, by a good path; we reached the top in forty minutes, from whence we quitted our former route from Poorahgong and continued along the summit of the great range by a very good path, leaving Poorahgong on our right, and in the valley beneath. We followed this route about an hour, and then by a long and pretty steep descent crossed the Goomara-Deesa, and shortly afterwards the Longkli-Deesa, both flowing from the great range into the Pytinga, parallel to which we were going. We then entered the bed of the latter river, and followed our former route over the Haflong hill to the stockade.

January 23d. Some provisions that had been left behind the previous day arrived.

January 24th. I visited the Goomegogoo Thannah on an height of about 5000 or 6000 feet elevation, and took some bearings of peaks, sources of rivers, and situations of villages in sight. I sent on the Shan detachment this day with grain to Semker to relieve the coolies, and enable them to return and carry more grain with the Sebundy detachment. Whilst here, I got in several villagers upon whose villages some of the attacks had been made, and took down their depositions. The people

of all except of one village, Longki, accused the Angamees of being the guilty persons in the late murderous attacks on their villages. The people of Longki stated that the inhabitants of Deelong and Kollering were the aggressors in the incursion on their village. The people of those villages, however, most positively denied having done so when summoned at Semker.

On the 26th, having collected a sufficient number of coolies, I set out for Semker from Goomegogoo with the detachment of Sebunlees and the part of the levy that came up with me, who were joined here by about twenty more men from the Jumnah, who had come up previously under their commandant, Doogaram Subadar, who had arrived from Doodputtee. We started at 8 A. M. by a good path over a ridge of low hills, in an easterly direction, skirting the Goomegogoo mountain. At 9° 30' A. M. passed the former site of the Naga village called Nerlasso, which was deserted three years ago in consequence of an attack on them by the Boesompoe Nagas, who killed several of them. At 10° 30' A. M. we came to a mineral spring on the banks of the Mootee, a small stream running towards the Dyung, into which it falls. Ascending and gradually winding round some hills, and leaving the village of Hassung-Hagoo to our right, we descended to the Mahoor, a good sized stream flowing north to its junction with the Dyung below Alogong, and forming a good boundary line of Toolaram Sanaputtee's country. We crossed and went down its bank, and halted at 2 P. M. after a march of about thirty miles.

January 27th. Leaving our encampment at 8 A. M., we crossed over some low hills by a good path, and crossing two streams, the Yah and Yhoo, which empty themselves into the Mahoor, passed some more low hills and entered the bed of the river Hah, the banks of which were covered with the foot-prints of wild elephants and deer. Along this stream we continued for an hour, and then ascending a very steep hill reached the large Naga village of Rangai, then completely deserted in consequence, as I was informed, of the Angamees having attacked it, and having, it is stated, killed 107 persons and carried away 30. I however think the number stated to have been killed is exaggerated. A fine view of the country is obtained here, and the hills towards the Assam side appear mere undulations in comparison to the gigantic ranges on our right. From this we had a fine view of the Deoteghur mountain, which hitherto had appeared to be a part of the main range, but now we had a full sight of it, shewing itself independent of any other hills. Large patches of brown clearances for cotton cultivation were visible; the wind was very high and cold on this mountain. We went along its summit, and descended winding round another very

high hill till we came to cultivation, from whence we looked down upon Semker, on the foot of a hill beneath us. By a very steep path we descended to the encamping huts erected by Toolaram Sanaputtee, who had previously arrived with the Shans I had attached to him. He had not been up to Semker for many years, and therefore was ignorant till now where the Angamees were located, which to my astonishment I found to be eight days journey further on. I applied to Toolaram Rajah for a statement of the depredations committed by the Angamees on his people, and found several of his Naga villages had also been sufferers; and on inquiring the reason of these attacks, I was informed that they were merely to extort conch shells, cloths, &c. and that the Angamees seized as many people as they could, to obtain ransom from their relatives, and killed all that attempted to escape, cutting off their heads (with the blade of their spears) which would be ransomed by their relatives also, this being one of the barbarous customs of the Nagas. I also applied for a statement of the sufferers of the village of Rangai, but the Rajah could not furnish one, as the people had all fled into the jungles, he knew not whither. I was told that the people of Semker also were thinking of leaving their village for another place, till they heard that troops were going against the Angamees, for they also were in daily fear of being cut up, which they certainly would be the moment they refused to bribe them with salt, dried fish, &c. The Semker people are not great cultivators, but live chiefly by the produce of their salt springs, and by traffic with the peaceful Nagas around them. They bring dried fish, beads, conch shells, and brass ornaments from Oodarbund Haut, and barter them for cotton, wax, ivory, chillies, &c.; and an extensive and infamous trade is carried on in slaves, who are stolen indiscriminately by all in that quarter, and sold to the Bengallè merchants who go up for cotton. I hear that a slave can be procured for twenty packets of salt, seven of which are to be had for one rupee. I saw many Muneeporees, who had been thus seized whilst young, and sold both amongst Kookees, Cacharees and Nagas.

There are 140 houses of Cacharees, and five or six of Nagas, but the Semker Cacharees are demi-Nagas, and many of them have married Naga girls. They have lost the good qualities of the Cacharee and resemble more the meaner and more cowardly Nagas of the lower hills of Cachar. I found here Ohkonah of Umbawlo, or Ing hong, and Hajootoc, on the part of Equigimpo of Beren, two chiefs of independent villages who had heard of the approach of the troops and both came to offer submission, and to seek protection from the Angamees. They seemed much afraid lest we should not attack

the Angames, and return, and leave those who had sought protection, and afforded assistance to us, to the vengeance of their cruel neighbours; they also seemed anxious in regard to their villages, but I assured them we would not go near them, if they could cut a road by which we might avoid them, and that they had not the least cause to fear; on which they appeared much satisfied, and said many other villages would come in after they had heard of the kind treatment they had received. I gave them presents, and dismissed them, and told them to prepare grain for us, which they promised to do. I found here the following friendly chiefs, besides those above alluded to, viz. Kaptao of Karcabong, Kamtao of Galiga, Katalong of Ohong, whose villages were on our right, in the direction of the Angamee mountains. They also agreed to furnish grain as we passed their respective villages, and each received presents. Immediately on arriving at Semker finding that I could only calculate upon 100 Kookees, who were as bad as Nagas themselves for throwing away their burdens and running off, I applied to the Bura Bundaree, who farmed the Cachar hills, to furnish 300 men, which he could easily have done, and which he promised to do. Delay occurred, however, and so I wrote to him again and again informing him that if the expedition was kept much longer from advancing, through his dilatoriness, it might prove of serious consequence. I learnt that he was not collecting the men as he wrote to me to say he was doing, but that he had sent a petition to Captain Burns, Superintendent of Cachar, stating that he found great difficulty in complying with my request. At the same time that I received Captain Burns' letter informing me of the difficulty stated, two Kookee chiefs joined me, and informed me of the injustice the Bura Bundaree exercised towards their tribes, in pressing all the Kookee population and not calling upon Cacharees, on whose account the expedition was undertaken. I was told that many of those excellent ryots the Kookees had left the Hills in consequence of bad treatment, and their being employed and worked on every occasion, whilst the Cacharees were never called on for their service. I ordered the Bundaree to furnish an equal number of men from each tribe, but deeming it imprudent (from the lateness of the season) to remain any longer at Semker, disputing with one who instead of throwing obstacles in the way ought to have been the first to have put his shoulder to the wheel, I resolved not to run the risk of being again put off with his falsehoods, and informed Captain Burns of his misconduct; then collecting all the Naga and Cacharee men I could, I sent off the Shan detachment and Ram Doss Morhuir to Beren, with instructions to collect as much grain as they could get, no coolies having arrived. I left Semker with forty Cacharee

and Naga coolies of that village at 12 p. m. I was obliged to leave Doorgaram Subadar behind with part of the levy, as there were no means of carrying provisions for them. The Subadar had instructions to follow when he could get coolies. Passing over two ravines we crossed the Kondekong river, flowing in a north-west direction towards the Langting. This latter river rises near Semker, and falls into the Dyung. Our route here being up the bed of the Kondekong was very unpleasant; after continuing this for two miles we crossed over a small hill in the middle of the valley, which brought us to the Dikkar river where we encamped, some in huts which the Shans had erected. The distance we travelled was about five or six miles.

February 16th. Started at 7 a. m. and passing a few inconsiderable ravines, formed apparently by mountain torrents, we came to a small hill from which there is an extended view of the valley beneath, and of the great range which runs north-east. From thence we descended to the Sorebackee river; following its course a short distance, we left it to cross over a small plain to the Par river, a stream of about thirty or forty yards broad, flowing northerly. Leaving it we crossed over another plain to a river of similar size called the Aungootee, which is joined here by the Harikondee, a small stream, along the bank of which we continued our course. These streams all flow from the Bura-Ail range, as do indeed all rivers tending from the north to Assam. The ground over which we passed was partly free from very heavy jungle, and appears to have been at one time under cultivation, and of a rich nature. Shortly after leaving the Aungootee we ascended a hill and passed the site of an old Naga village, and then descended to the encampment of the Shans on a tongue of land formed by the junction of the Tomkee and Toolongkee rivers. The distance we travelled to-day was about twelve or thirteen miles. We were obliged to remain to-day, as the torrents of rain prevented our stirring, and we found the inconvenience of the wild plantain-leaf houses, which let in the rain in every direction.

February 17th. The Naga coolies having run away during the heavy rain of the previous day, we were obliged to divide the party, and leave six men in charge of the baggage. Started at 11 a. m. and ascended to the deserted village Ekkenja, which I intended to have reached the day before, but had been deterred from doing so by the accounts of there being no water. This village was said to have been attacked by the Angamees some years ago, and the inhabitants having gone and settled across the valley, under the great range. This new village is called Sergi; the road was tolerably good, excepting in some places where it was impeded by fallen bamboos. After gradual

Descending we reached a small winding stream, over which we crossed several times, and which ran through a fine flat country composed of rich reddish clay, and lightly covered with forest and the very large Kakoo bamboos. Passing over the plain we came to the Támákee, or as it is called by the Assamese, Dhunsiree, a good sized river flowing in a northerly direction, but the depth was not very great; indeed none of the rivers I had met with were very deep, and the shallowness of their banks leads one to imagine that no considerable body of water remains in them any length of time. The Dhunsiree was filled with round stones, and an opening in the great range to the south from whence it flows leads one to believe that it originates at some distance within the range. After quitting it we almost immediately ascended a middling sized hill, which we passed over and ascended to a small streamlet. Bordering it we came to the hill on which Kareabonglo is situated; it is of moderate height. Ascending it we found the village deserted, and the guard who had gone on with grain snugly stowed away in a spacious house; the Semker coolies had dropped their loads and run off one and all. Kareabonglo is a Naga village of about twenty-five houses, on a hill that commands a good view of the surrounding country, as also of the two villages called Galaga and Harapalo, of about equal size. These Nagas, who speak the same language as the Cachar Hill Nagas, are quite distinct from the Angamees, who speak a different language, and would rejoice in the subjugation of the Angamees, who force them to give them conch shells and other things to purchase the preservation of peace. The chief Kaptoa, to whom I had given presents, brought us grain, for which he was duly paid; other chiefs who brought any thing had the money always tendered to them in payment; some however refused it, but when I told them it was our custom, they carelessly took the money as if it was not of the least value to them; some again indignantly refused. The view from the place last described was good, the huge range of mountains one mile to the southward stretching out in a north-east direction, and apparently terminating in large mountains. On the north-east were two hills heavily clothed in dark green, to the west the same, but broken by a plain or two. To the north, the first part was the same description of country, till an opening in a distant ridge of hills brought to view an extensive plain, which is Toolaram Senaputee's country: a mist generally hung over the land, which was against any distant prospect being obtained. The Cacharee coolies that had accompanied us from Semker, under pretence of going to dine by the stream-side at the bottom of the hill, ran off, and left us with-

out any coolies at all, situated on a mountain, and in a sea of forest and hills; some of the same tribe of men who accompanied the Shan detachment served them the same trick. The Shans therefore left their grain at Kareabonglo and pushed on for Beren.

The chief here promised to give us thirty coolies, which added to those the interpreter had brought up with the baggage, and the guard that had been left behind, enabled me to carry eight days grain.

On the 21st February, left Kareabonglo, having been detained for the want of coolies three days. At 10° 35' A. M. by a good path went over some undulating ground, and then gradually ascended at 1 P. M. to the Dádákee stream, which is about forty yards wide, with fine clear cold water gushing through large round pebbles; it falls into the Támákee or Dhunsiree. Ascending, we went along by an excellent path till we came to the Inchurkee river, another stream of nearly equal size to the Dádákee, discharging itself into the Támákee. Passing it we had alternatively good and steep paths till we had passed over a plain and up the bed of a rocky rivulet. We then ascended and passed over the hill on which Umbolo, or Juckong, is situated; we left this village out of sight on our left, and encamped in very good huts, erected for us by the chief Okonah at 7 P. M. Umbolo consists of about eighty or a hundred houses. The Nagas hereabout are a much finer race than those of the Cachar Hills; and the colour of the eastern Nagas is a much more wholesome brown than of those in the vicinity of Goomegogoo, who are more of an ochre colour. The chief brought down eggs, &c., and relieved those men who had come from Kareabonglo by another band. He seemed quite delighted at the idea of the Angamees, the tyrants of the Hills, being put down; and collected twenty maunds of grain for us, which however we could not take with us as we had no porters. I was informed by a Muniporee (who had been captured whilst young, and sold to a Naga of this village, and had married a Naga girl) that there was a road from this to Assam in five days viâ Sumoogoding. The distance from this to the village we had left (Kareabonglo) is about 12 or 13 miles, and there are a good many hills to go over.

February 22d. We left at 10° 20' A. M. and crossed a small stream, and an hour afterwards ascended the great range to the village of Unggong, from whence a most commanding view is disclosed of the low hills up to and beyond Tooleeram's country, with the course of the Dhunsiree or Támákee. The hill on which stands Sumoogoding is plainly visible, as also the whole of the Angamee valley, and partially grass covered hills. The people of this village treated us civilly, and collected grain (rice) for us of a very good kind. The village consists



of about sixty houses, on the top of a very high hill joining the great range. I went into their village, the people were a little frightened at first, but afterwards they came round to look at the singularity of our dress and difference of colour. They were very much astonished at the whiteness of our cloths, they indeed are in a most primitive state of nature; the road went at the back of their village. We halted about an hour afterwards on the banks of a small stream having passed the Unggrongrow river at the base of the hill the village stands on; it falls in the Támákee, at a distance of one day's journey from the village in question. The distance to-day was only six miles, owing to some of our Semker coolies (who had joined us at Kareabonglo) having run off on the way.

February 23d. Left at 8° 5' A. M. by a tolerable path, and entered the great range which we had hitherto skirted, and went up and down hill till we suddenly diverged from the continued forest to a most noble opening, which disclosed to our view an extensive valley surrounded by partly cleared mountains, with topes of firs, these were in solitary groups and in ravines; the large village of Beren appeared on the summit of a high mountain across the valley. The encampment of the Shans was visible on a knoll below the village. On arriving nearer to what we supposed to be cleared ground, we found extensive wastes of low grass, such as is met with in the Kas-syah hills. Winding over several ravines, and passing a river flowing south, we met the Mohurrir, Ram Doss, and a party of Shans who had come out to meet and warn us to keep together, as the Angamees had the night before attacked them and wounded one man, and were prowling about in parties to catch stragglers.

On further inquiry, I was sorry to find that it was through their own very great neglect, and to their total inattention to the warning I had given them, to keep their bayonets fixed on guard and sentry duties, that one of the party, the Shan sentry, was speared in the leg. I believe there were ten or twelve Angamees about the camp, and two of them crawled up through the grass at 12 P. M., and actually speared the sentry who was sitting down, and most probably asleep. After being speared he attempted to fire his fusil, but the powder being damp it missed fire, whereupon he had time to butt him, but the Naga forced himself away and ran off; the second sentry came up and fired, but missed; had the bayonets been fixed, the fall of the Angamee would have been inevitable. I found the camp built on the remains of an old circular fort, erected formerly by Raja Krishna Chunder of Cachar, who was driven out of the country by famine, after losing one or two men by the spears of the Angamees; he came

up to revenge the attacks made on his subjects by those banditti. He brought up a long ten or twelve pounder to frighten these wild people with, but he found an enemy that made his great gun useless, and was obliged to leave it behind in the jungles. The chief of Beren, Iquijimpo, was most accommodating, and offered to sell the old cylinder for one hundred rupees. On arrival, finding the dried grass around the stockade had not been removed, I set fire to it to save our enemy the trouble of doing it for us, and had the good fortune to drive the fire away from three sides of the stockade, when deeming all danger passed from the fourth side I left some persons to finish what I had begun; but from carelessness, or a sudden gust of wind, the fire spread, and the cry of houses on fire, soon made me aware of what had happened. I seized first the magazine and placed it out of danger, then the grain was all removed, and just as the last bundle was rolled over the paling the flames devoured the store house. A little cordage was burnt, but no material accident or loss occurred, and all parties behaved very well. The troops were drawn up in line after the removal of the stores, ready to have repelled any attack the enemy might have made. I sent up to the people of Beren, who were all assembled on the height, to come down to re-build the camp, but they would not do so; I therefore sent up some Shans to fire a few shots to frighten any wandering Angamees from the neighbourhood, when the Beren people came down and re-built our camp on the ground of the circular fort. This fort was a raised knoll of earth, built up with stones to the height of three feet, with a gradual slope all round. I was perfectly astonished at the fine athletic mountaineers we now had to do with, and was much amused at their accounts of the Angamees. The chief of Rassam and Sarralo who had met us at Umbolo came down from the village, and in a most mysterious manner pointed to the stream and said the Angamees had poisoned it; I replied with a smile, and the gravity of his countenance ceased. I imagine the Angamees had instructed him to try and frighten us out of the country by some such story.

The two chiefs also hinted at the retreat of the Cacharee and Muniporee forces sent against the Angamees, and the absurdity of our attempting it. In fact they tried in every way to talk us over, and boasted of their superior cunning in the most barefaced and at the same time ridiculous manner. The evening we arrived, suspecting the Angamees might favour us with a visit, I remained close to the sentries till 10 o'clock, when the jingle of a shield in the jungle warned us of the vicinity of our enemy. I foolishly fired a couple of shots in the direction of the noise, which drove the Angamees away; had they not been thus alarmed, and had they approached, we might

have then punished them for their intrusion at such unseasonable hours.

They remained in the neighbourhood all night, but deeming it waste of powder and shot firing at sounds, I directed the sentries to adopt a rather primitive mode of letting them know of our watchfulness, and that was, to pelt stones into the jungle when they heard any thing in it, and only to fire when they saw their enemy; this order had a very good effect, for the enemy remained at a distance all night, and retired before day-break. Whilst at this place the chief of Gopelo, a larger village than Beren, came to pay his respects in order to prove that he was friendly; the chiefs of Moolookce, Jalooka, Báláka also came. The jealousy existing amongst the different villages is very great, and after the Beren people had built our huts, they said—"There's such a village has done nothing, make them build the railing." On the 26th the brother of Impuisjee, one of the two greatest chiefs of the Angamees, came to the village of Beren, but would not come down to the camp until I had sent Ram Doss Mohurir accompanied by a Naick and five Shans and the interpreter to assure him on oath of his safety, and to receive his oath of amity in return. On seeing the party approach however he ran off into the jungles, notwithstanding the chiefs of Beren and Rassan were with them, and assured him that nothing would be done to him. The Shans were then left behind, and Ram Doss went out to meet him, but he objected to the sword and shield the Mohurir had with him; these being left behind he came close, and the oath was taken in the following manner—A chicken was produced, the head of which the Mohurir held, and the Angamee the body; they both pulled till they severed it in two, which was to signify, that if either was treacherous his head would be divided from his body in the same manner. They then held a piece of a spear at the ferule end, which was cut in two, and each retained the bit in his hand;—this is one of the most sacred oaths amongst these wild men. The chief then came down to the camp, and I assured him that his brother need have no fear for his life, if he would come in, and swear not to molest the Honorable Company's subjects any more. He agreed to every thing proposed, and volunteered on condition of their lives being spared, to pay a tribute of ivory, slaves, &c. He said his brother had gone to fetch the articles referred to. I showed him a watch and a telescope, and told him I could see every thing he did in any villages, and after frightening him by firing at a pumpkin, I gave him some presents and dismissed him. I waited till the 1st March for his brother's coming, as also for grain from Semker, but neither arriving, I got coolies from Beren and started for Báláka, a vil-

lage six miles on our route, and to which the Beren people had agreed to take our traps and the little grain we had. The road was good the whole way, with only one or two hills. We encamped on a flat piece of ground near a well below Báláka, which is always built near villages for the cattle to drink out of. The chief of Ungolo came in with eggs, &c. and said his young men had joined Ikkaree in the incursions into the Cachar Hills; that they were forced to go, but should not do so again. The term 'youths' is applied to all able bodied villagers. I deemed it needless to bind the smaller chiefs, who stood at the beck of the greater ones, to oaths they could not keep. The chief of Jykama (or as it is written in Captain Pemberton's map of the North-east frontier, Yueékhe) sent in a person of his village to know whether his coming in would cause the loss of his life; I assured him that we were most desirous for peace, but that his not coming in would be a sign of his enmity, and that in that case I should attack his village; the chief departed quite satisfied.

March 2d. I was unable to move for want of coolies. I this day got intelligence of Doorgaram Subadar and of the levy having come to Beren according to order, with forty Kookees out of one hundred who had arrived at Semker. The chief of Umponglo came in, and said Impuisjee, the greatest chief of the Angamees, who had promised to meet me, had gone to Umbolo, or Sirchong, to ask advice of the chief of that village regarding a meeting with me. This chief is his nephew; he promised to give us grain as we passed his village, he also said the children of his village had gone in Ikkaree's train to the Hills, but that they would not do so again. Ikkaree is the second chief of the Angamees, and the principal leader in the predatory attacks on the Cachar Nagas; he was captured by Doorgaram Subadar in one of his incursions to Goomegogoo, but escaped, as he said himself, by the neglect of a burkundaz. Our grain being all expended, and finding none coming forth from the villagers, I placed the chief of Báláka in arrest, to induce them to exert themselves for us, but my experiment had a very opposite effect, for they all fled from the village and left their chief to his fate. On his taking an oath to bring coolies and grain, if I let him go, I released him, which was another kind of experiment, and proved something like letting go a newly-caught bird, for we never saw him again. Doorgaram Subadar came up to-day.

On the 3d March I was obliged to divide the party, as it was necessary to increase our rate of going onwards, or to return, for every moment reduced our supply of grain. I therefore left the Shan and levy detachments under Doorgaram, with instructions to make the best of his way after me, or otherwise to act according to cir-

umstanees, and return if he was obliged to do so; as I had determined to push on, and if nothing else could be done, to find the exit from this tract to Assam, of which I had heard from Toolaram Raja and the Munipoorees. Notwithstanding their ignorance of the existence of a road pretended to by the Nagas, with only one day's provisions I started for Malhye, a village six miles off. I had no guide, but trusted to a path which the Báláka people had pointed out before they ran away as the direction to be pursued. I was rather anxious about meeting any villagers at Malhye, imagining that the Báláka people had communicated our having seized their chief. We found the Malhye people assembled and prepared to protect their village had there been any attack from us; but with a hog and some grain laid at the entrance we pacified them, and got what we wanted. It was rather amusing to see them assembled with their spears, looking very fierce and warlike, whilst we were aware one shot would have sent them flying over hill and dale, and proved to them their weakness. They are however very persevering in their mode of fighting, viz. wandering behind bush and stone, on the look out for an opportunity to spear their enemy when off his guard. Whilst standing making inquiries for a convenient encamping place, Keereebie, chief of Jykama, or Yueekhe, bounded down the hill side and presented a piece of cloth and a spear. A finer specimen of a wild mountaineer was never before me; he wore the blue kilt, ornamented with cowries, peculiar to the Angamees, which set off his fine, powerful figure very much. I told him to come to camp and receive some presents, which he did; but he refused to accompany me to Ikkaree's village, as he said he was at enmity with that chief, and if he caught him he would kill him.

March 4th. Lookakee, chief of Unggileo, came to pay us a visit, and left us to get some grain ready. Healuekung, chief of Ungolo, came and gave a black cloth as an amicable offering, and brought some coolies to relieve our Kookees; the men he brought were all fine strapping fellows. Left camp at 7° 30' A. M. and ascended to near the Ungolo village, which consists of about 30 or 40 houses situated on the top of a lower hill of the great range. We found two baskets of rice at the path leading to their village; the path from this was newly cut, and therefore not a good one. We skirted the great range, which from Onggong took an easterly direction. We met with no bamboos, our route being through forest trees with small underwood. We passed the bed of a mountain rivulet, which was now hardly trickling sufficient water to allow of a good draught, but which in the rainy season must discharge a considerable body of water, and going over several low hills reached Unggililec, where the coolies from Ungolo dropped

their loads and ran off. We got a couple of baskets of rice from the people of the village and a small pig, but the total of to-day's supplies was not more than sufficient to allow of half a seer per man, and all the salt had been expended, which made the privation greater.

March 5th. Sent the Mohurir Ram Doss to the village with ten Shans who had accompanied me, to get some rice; but the people assembled with spears, and said our intention was to burn their village; but on being assured that we only wanted rice they gave some, though a small quantity, and we marched off. At 9° 50' A. M. went over a hill and ascended to Umponglo, the chief of which seemed very friendly, and offered to accompany us and bring Ikkaree to terms, which offer I gladly accepted. We had some difficulty in getting sufficient rice to admit of each man's getting his half seer; we succeeded only by hard pressing, and remaining under the village for some time. We descended thence and passed a good sized river, flowing in a northern direction towards the Tamáke into which it falls; it is called here the Unnuruce; passing it we ascended and came to a fine flat space of clear rice land, on the top of a hill; winding over several heights we descended to a small stream, on which we encamped in rather stony ground.

March 6th. Broke ground at 5° 45' A. M. and went a short way through the forest, when we came to a wide rocky space with scattered jungle, apparently the course of a considerable body of water in another season, but now confined to a clear stream of little magnitude; on its right bank there is fine encamping ground amidst tops of the large Kakoo bamboos. We passed no less than four or five streams in the course of our journey this day, and ascended a very high hill on which were the remains of an old village. The great range became more broken in its regularity here, and we ascended over several hills and reached the valley beneath Tukquogenam, a village of about sixty or seventy houses, written in Captain Pemberton's map, Takojunomee. We encamped in a triangular-shaped rice cultivation, which was raised by steps (the highest about thirty feet) above the level of the valley, for the purpose of retaining the water to nourish the rice crops. Through the centre ran a clear rocky stream of about twenty or thirty yards broad, with which they could irrigate at pleasure. On our arrival we found Bahoota, a lad who called himself Impaisjee's nephew, but who was merely an adopted son of that chief, and who had promised to bring in Impaisjee and Ikkaree at Beren, but broke his promises as easily as he made them. I had fortunately taken the precaution to send the interpreter with the chief of Umponglo before us to calm any fears the villagers might have had, and lucky it was I did

o, for they found them all ready to fly at the first signal of our approach. The chief and his two sons came and brought eggs and grain, not more however than would allow of the old allowance of half a deer. They informed me that the head man of Ikkaree's village was up in their village and would come down if I would not molest him, which being guaranteed he came down and offered a spear, and said Ikkaree was most anxious to come to terms, but feared coming to camp from dread of being seized again, which I assured him would not be the case, and that he might depend upon our word, as it was our custom to act as we spoke, which appeared to satisfy him, and he departed with a promise to bring Ikkaree the next day.

March 7th. Sent our Cachar Naga interpreter with the Tukquogenam Angamee interpreter to Cheremee to fetch grain, which he succeeded in getting, to the delight of the coolies, who had had none the day before. He informed me that at the village he had met with two men from Sumoogoding, whom he wanted to come and see me; but they replied, that a body of troops were on their way from Dhejna, and that they must return to their village to get grain ready for them. This fable served my purpose most admirably, and I told them to tell Ikkaree that if he did not come in soon, I should give him no terms, but advance and burn his village directly the Dhejna troops arrived. This threat brought him to the village of Tukquogenam, and a promise to come down and accept terms next morning. The people of this village had the insolence to say they could drive us out of the country, but they feared the other troops that were coming from all directions to attack them.

March 8th. Ikkaree sent word to say he feared coming into camp, on which I sent the Mohurir Ram Doss and the chief of Unponglo, who had been trying to allay his fears. They returned after about an hour's absence, and said they could not persuade him to come down to camp, but that he would meet me half way between the village and the camp. Seeing that we had no grain for that day's consumption, and fearing that if I should be obliged to attack any of their villages I should only be put in possession of an empty place, as all the grain had been previously secreted in the jungles (as indeed it had been in those we had passed, for they had long been aware of our coming) I determined on going to meet him in his own den. Placing a pistol in my pocket and a sword by my side, and giving a pistol to the Mohurir, I sallied forth with an Assamese Mohurir to take down the questions and answers; a quarter of an hour brought us through an open vale to five or six men watching on a slightly rising ground, beyond them were more men scattered about in an open plain or dale of

about five hundred or six hundred yards wide ; in our front stood the village on a hill, behind which were the high peaks of the great range ; on our left were more low hills, and on our right, a wood with a river behind ; in the centre of the plain there was a stone Chubootar to which I advanced and sat down. I then perceived Ikkaree, whom I knew immediately by the red collar round his neck edged with human hair. I had heard that this was the distinguishing marks of these chiefs, from their villagers. Ikkaree was sitting on a heap of stones ready to fly up the hill, if there was occasion ; he did not however come till after many calls from his people and my threatening to return, when he came up rather sulkily, with a red spear in his hand, which I commanded him to leave behind. This being done, he came along cautiously and sat on the Chubootar, continually looking behind for a clear coast for a bolt, and had I given but a single halloo, he would have been off like a shot ; his own men ever abused his timidity. On getting a little confidence he commenced boasting of his cunning, &c. which I soon stopped, by telling him that if I chose at that moment I could walk him off to the camp, but that I had promised him safety, and that he need have no fear ; on this he seemed very anxious to depart, but I made him take oath not to molest in future the Honorable Company's subjects, which ceremony was administered in the most simple and the rudest manner, for it merely consisted in his holding one end of a spear and I the other whilst it was cut in two, each retaining his bit. Ikkaree was wanting to be off before it took place, but I made him remain, and thrust the bit of iron into his hand when half cut, and made him hold it till it was cut through, so that he might have the full benefit of the sanctity of the oath ;—it is considered one of the greatest oaths amongst these savages. He promised to send rice next day, and departed much like a jaekall, looking round every second step. He is a fine specimen of a brigand, tall and slight, and made for activity, of a brown colour ; he has small black eyes, in one of which there is a cast, black whiskers and mustaches, and a savage sneer always playing on his lips. He is a varianee with many of his own tribe, and is a most cold-blooded murderer ; he wore on his neck a collar made of red coloured goat hair, and ornamented with conch shells and tufts of the hair of the persons he had killed on his expeditions. I returned to camp, and the Tukquonam people brought us rice, but said they could not afford any more.

March 9th. Bahoota came down, and said something about Impaisjee having arrived, which proved false. On the Mohurir Rans Doss going up, he reported that he had met the interpreter on the road, who feared to go up to the village as there was a body of men



on the road who threatened him ; Ram Doss however went on with Bahoota and the interpreter, and met 200 men armed with spears, who attempted to obstruct the passage, but Ram Doss pushed on, and they retired. Ram Doss said they belonged to Ikkaree, and that that chief had sent word to say, he would give us grain if we went to his village, but that he would not, or could not, send it, (as he had promised to do) if I did not move forward. My chief object being accomplished, viz. that of settling affairs amicably, and discovering the locality of these brigands, moreover having found the exit to Assam, viâ Sumoogoding, and deeming it a rather dangerous experiment remaining any longer in a country where the roads ran chiefly in the beds of rivers sure to be stopped up in the rains, which had already commenced on the upper parts ; doubting also the word of Ikkaree to supply us with grain, and the consequent likelihood of a quarrel had we gone to his village, I determined to return.

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We had not a grain of rice for that day, so I marched off towards Sumoogoding, where it was most likely we should get provisions, that village being in communication with Toolaram's Cachiaree subjects at Dheghna, leaving a message to the two chiefs Impaisjee and Ikkaree to the effect that, as they had taken oaths not to molest the Honorable Company's subjects I should not trouble their villages, and hoped they would attend to their oaths. We left camp at 9 A. M. and by a very good path reached Cheremee at 11 A. M. it being about five miles from Tukquogenam. It is a small village of about fifteen houses, situated upon a middling sized hill ; the silly people assembled to prevent our going into their village, armed with spears, little imagining that one volley as they stood would have blown them off their hill. We pacified them, and got a little rice, but it not being enough, I threatened them if they did not bring more to camp, to return. From the hill several other villages were pointed out to the east, but I did not observe them, Papamee, and Jingpen were among their names. The great range seemed to take a turn to the south of east from beyond Tukquogenam. The directions of Moongjo and Sookamjo were also shown, the former a village of Ikkaree's, consisting of five hundred houses, and the latter belonging to Impaisjee of eight hundred houses.

Leaving Cheremee we descended to a small river bearing the Naga name of Ompoa ; we continued down its bed for about a mile, and then encamped on its left bank in a newly burnt jungle, opposite the village of the same name, which stood about a mile off on a hill, and was hid by the tree jungle. In the valley we were in the huts had

just been erected, when a lad belonging to the Shans came running in breathless and said he had seen two Nagas with spears and shields. I immediately took a couple of Shans and went out in the direction, but only met a couple of sepoy and coolies cutting wood. Returning and recalling all stragglers, I found the chief of Umpoa with grain, which greatly relieved the spirits of the party, as there was a good chance before that of their going without their usual allowance. I gave him some presents, and he returned to his village. About an hour afterwards, it being evening, the men were all cooking in the bed of the river, when two Nagas sneaked up through the jungle from the opposite bank and threw two spears at the right flank men, one of which lodged in the thigh of the dhobee and the other grazed the skin of a sepoy; the Nagas instantly fled, and several shots were fired in the direction they had gone, which was all that could be done, as evening was too far advanced to pursue them. Our Tukquogenam guide, who had promised to show us the road to Snmoogoding, said that it was the people of the village of Pepamee and Cheremee that had attacked us, but I very much suspect that Ikkaree was at the bottom of it, and fearing for his own village he had ordered these two small villages to annoy our return; but it is very difficult to speak with any degree of certainty, as the Angamecs are all in clans, and each village is its own master as long as its doings do not affect the great chiefs. As far as I can learn in regard to the two great chiefs Impaisjee, who is the greatest, is wishing for peace, but his more adventurous countryman, Ikkaree, is unwilling to give up his predatory habits and his attacks on the Cacharees, who yield him much plunder in cloths, conch shells, &c. besides what he forces them to give to release any of their relatives who may have been captured in an inroad, and also to ransom any skulls of their relatives;—for leaving the latter in the hands of the enemy is considered amongst the Nagas a very dishonorable thing.

March 10th. The chief of Ompoa came down, and said the Naga that had attacked us were of the villages of Papamee and Cheremee but I suspect the people of Cheremee, the village we had left behind were the parties concerned. The night was extremely stormy, it rained heavily and thundered and lightened, but our leafed roofs luckily did not leak. We heard the Nagas around us the whole night trying to sneak up, but a shot drove them off in a great hurry. They are very much frightened at the report of fire-arms; they follow their enemy with great perseverance till they wound or kill one or two, when they run away. We left this early, and followed the course of the river for about eight or nine miles, and then ascended the high ridge on the

summit of which Sumoogoding is situated. The stream was joined by another river called Omporo, which increased its width towards the end of the journey. Some Nagas were observed to follow, but on several men detaching themselves to go after them, they fled in all directions. The chief of Ompoa accompanied us, as also Bahoota, as far as the Sumorginding ridge, where they left us. The weather was very threatening, and as we ascended the ridge the clouds lowered and rolled through the opposite high range we had left, and we expected to have been deluged before we reached the top; however it cleared off and we ascended, but met a fierce looking foe in the shape of the villagers of Sumoogoding drawn up in battle array to resist our ingress into their village. We found many who could speak the Cacharee language; these were informed of our only wishing for rice and a convenient locality for our camp, and on this they showed us the road across the range, and from it, a most extended view is laid open of a vast plain to the north, (which greatly pleased our inhabitants of the plains, who were sick of mountain life) and on the south, of the whole Angamee valley and mountains; we then descended to a small nullah under the north side of this range called Narrow, and encamped on its bank. We got enough grain for the party to allow of half a seer for each person, the chief however did not seem much inclined to give us the quantity we required to take us to the end of our journey, viz. three days. Next day he brought only one maund, and said he could give no more, on which I sent the Mohurir Ram Doss with ten men and a Naick up to the village with the men who brought down the grain, one of whom however I took the precaution to retain, as the Cacharee interpreters had not made their appearance, according to promise, and in case we should require to force grain out of them and have a dispute, and thus obtain no guide. The party returned and said they could not get any more grain, and that the Nagas who had followed had come into the village, and were only prevented from attacking us by the villagers, who were afraid of our burning their village. Taking twenty-five men under the Jemadar, and the Kookee coolies, and leaving the same number under the Subadar, who had been ill since our leaving Semker, to protect the baggage, I proceeded up to the village, which I found empty, but saw parties of Nagas scattered about on the neighbouring hills, and the villagers in a small stockade on the crown of a hill beyond the village. Finding plenty of grain, I set the Kookees to work to clean it whilst I attempted to get the villagers down from their citadel, but to no effect. After some grain had been beaten out we observed some Nagas attempting to sneak through the jungle up to us, but as I was unwilling to injure

any of them, as they traffic peaceably with the Dhegun Cacharees, I made the Kookees take each a bundle of Dhan and a threshing board and left the village, and beat our grain out in camp.

March 12th. We left camp and followed the narrow nullah for about an hour, and then went across the plain in a north-westerly direction to the Dhunsiree or Támákæ river, fifteen miles from the first range of mountains on which Sumoogoding is situated. We reached it after crossing a good sized stream, which I imagine to be the Ungrow river that flows beneath Ungong. At 2 P. M. we went up several reaches of the Dhunsiree and encamped, as the Naga we had brought with us persisted in denying any knowledge whatever of any road leading further than the Dhema, or Dhimsire, as it is called by the Sumoogoding and Dhejna people. *Dhema* literally signifies a river in the Cacharee language. Parties were sent out from this in all directions to search for traces of a path, and one of them that returned late brought in some men left by Tooleeram to show us the route in case we should return that way. The Rajah had returned from Semker viâ Kareabonglo down the Dhunsirée. His fires had given rise to the report of the troops coming from Dhejna. It was most fortunate he had left these men, as had the Naga not been aware of the road, as he pretended he was not, we should have found very great difficulty in forcing our way through the forest to Dhejna.

March 14th. Left encampment at 7 A. M. and went through the forest. At 7° 45', passed through a reedy country; at 8° 30' came to a small river, crossing which we went over some undulating ground, and at 11 A. M. met Toolaram Senaputtee, who was going to look after us with grain. At 12° 30' reached Dhejna, where we encamped, having come a distance of about sixteen miles.

March 15th. Left Dhejna 8° 45' and went over undulating ground till 11° 20', when we came to Mohong Dhejna on the banks of the Joomoonah river, in Zillah Nowgong, wherè I halted to allow the Subadar to come up in a doolee, as he was very ill.

I here heard that Doorgaram with his men had followed me, and had arrived at Dhejna, having experienced the same difficulties from want of supplies that I had. I made arrangements to have the Shan detachment left at this post.

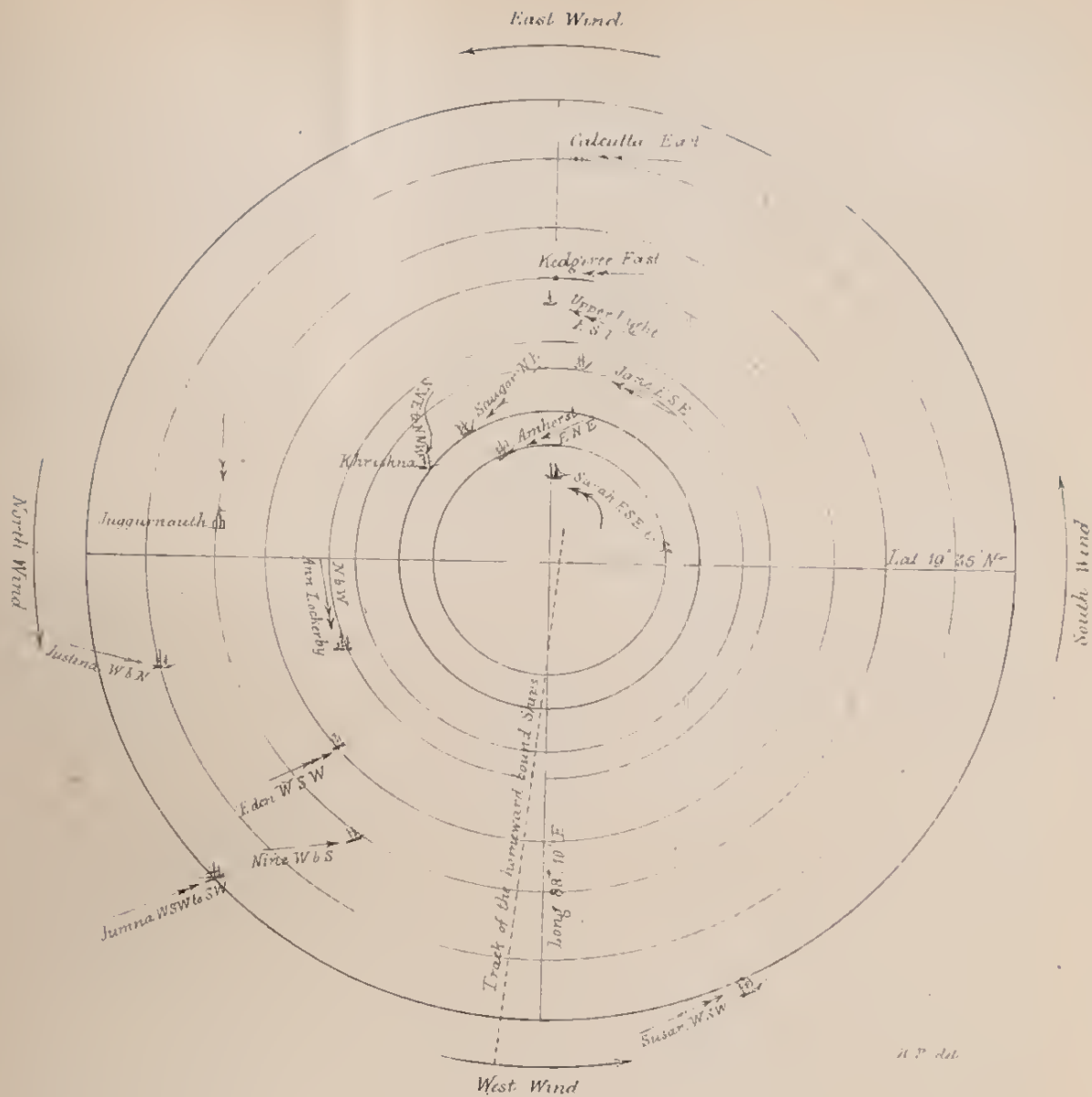
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Toolaram Rajah kindly offered to cut a road to Sumoogoding, passable in the rains, which offer I gladly accepted, and have been informed that it is nearly accomplished. The levy under Doorgaram returned from Dhejna to the Goomegogoo Thanna to await further orders, and the Sebundee detachment was ordered to Gowahatty, as there

was no further use for them. From the difficulty of understanding the Angamees, and from my requiring interpretations through the Jacharce-Hindoostanee, Cachar-Hill, Naga, and Angamee, dialects I found it no easy matter to get information regarding the Angamee customs; besides, the impatience of the wild Angamee to remain any time in one place or attitude is a great obstacle to obtaining such information. The Angamees, or as they are termed by the Assamese the Cachar Nagas, are a very different race from the Nagas of the Cachar hills; they are a much finer and independent set, and have for some time exacted tribute from their pusillanimous neighbours of the lower hills, and collect from Mahye to Gumeogoogo, obliging the Semker Cacharees even to give them salt, &c. to preserve peace.

The young men in particular are fine, sleek, tall, well made youths, and many are very good looking; they pride themselves much upon their cunning. The formation of their joints struck me as being singular, they are not bony or angular, but smooth and round, particularly those of the knees and elbows. They are continually at war with each other. Their dress is that peculiar to most other eastern highlanders, but of a more tasteful make than most others. It is a blue kilt, prettily ornamented with cowrie shells, and either a coarse grey or blue coloured cloth thrown over their shoulders, which in war time is rolled up in such a manner as to allow of a bamboo being inserted to carry the person away, should he be wounded. Their defensive weapon is a shield, of an oblong shape, made of bamboo mat work, with a board behind to prevent any weapon from piercing it; their offensive weapon is a spear of seven or eight feet long, which they throw or retain in their hand in attacking. Their villages are generally good sized ones, built on the high hills below the great range, which appear most difficult of access, and are usually in two parallel lines, with the gable end of the houses towards the front, in a diagonal position to the street. Their houses are commodious, being one large roof raised from the ground, with mat walls inside; the interior is divided into two apartments—a cooking apartment and a hall, in which all assemble. In this last every thing they possess is kept, and equally serves for a sleeping apartment, sitting room, or store room, large baskets of grain being generally the furniture of one side. There are always two large fires, round which are benches of planks forming a square seat for all the gentlemen and ladies of the family; one fire is set apart expressly for the youths and children, who are not allowed to mix with the sage old people. In front of their houses are either round or square stone pigsties, on which, of a morning and evening, the villagers sit sipping with a wooden ladle from a gourd bowl a kind of spirit

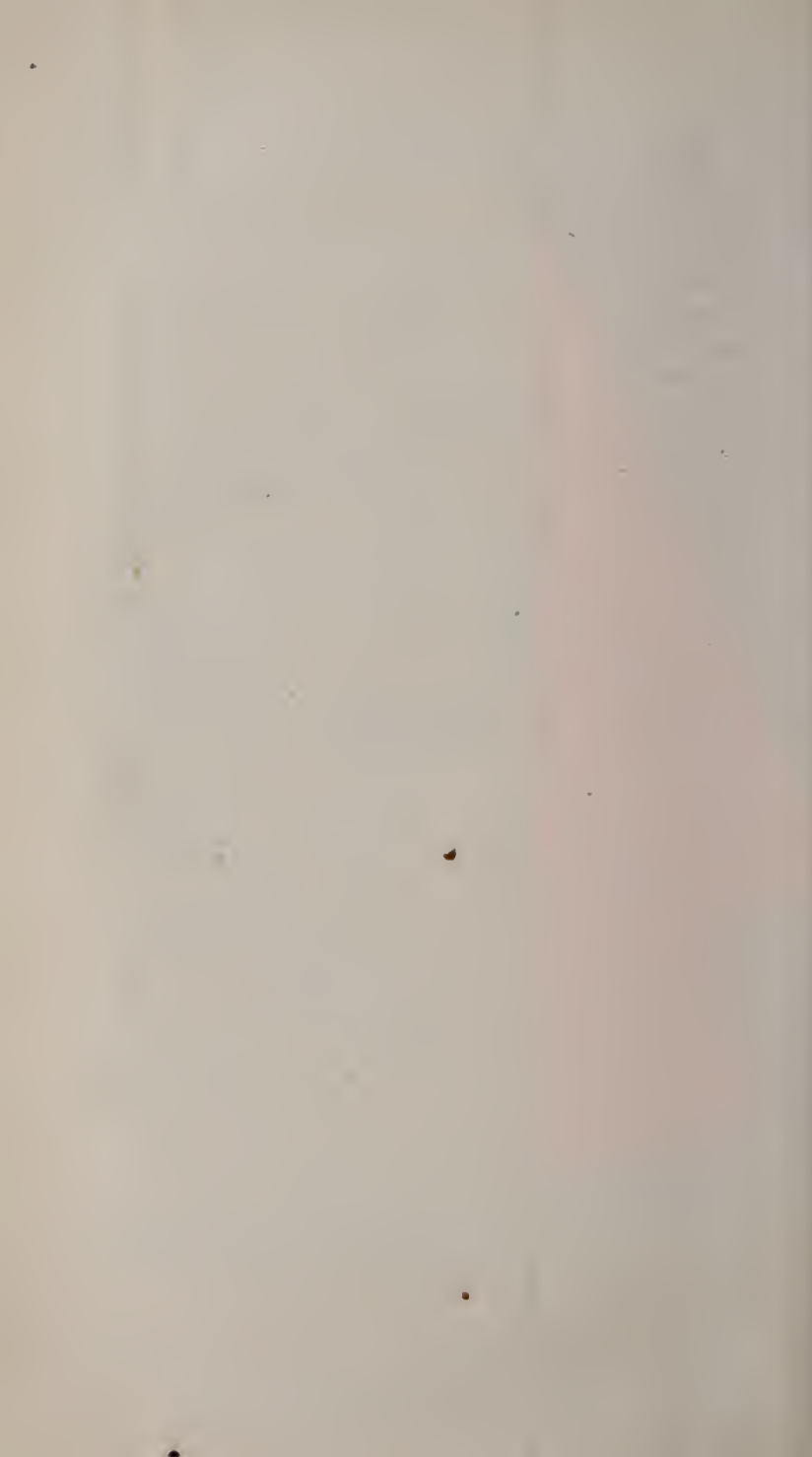
made from rice flour and Bajara seed. Their main street is a receptacle for all the filth and dirt in the place, and is most offensive. In front of the houses of the greater folks are strung up the bones of the animals with which they have feasted the villagers, whether tigers, elephants, cows, hogs, dogs, or monkeys, or ought else, for it signifies little what comes to their net. They have very fine large straight backed cows and buffaloes; they have also goats, hogs, and fowls, but no ducks or geese. On each side of their villages are stockades and a ditch, which is filled with *Pangees*, or pointed bamboos, and on the sloping sides of the ridge the earth is cut away and a wall built up; these fortified villages would make a formidable resistance to any force without fire-arms, but they are generally overlooked by neighbouring heights, which disclose the whole interior economy of the place. They cultivate rice in the valleys between mountains, and several other kinds of grain (names unknown) also a very fine flavoured kind of purple vetch. I was informed that cotton did not grow in the higher mountains, and that they got what is procured from the lower hill Nagas. The peach tree grows in a most luxurious state round the different villages, I also saw an apple tree off which we got great abundance of fine large wild apples, which were greedily devoured by the whole party. The Angamees get all their iron instruments from the Munipore Nagas; they are great wanderers, and make incursions into Munipore itself, and carry away children, who are sold up in the Hills. I met several who had been seized in that manner, and who had adopted the wild Naga customs, and were unwilling to return; Semker is a great mart for this kind of trade. The Angamees have no idea of ploughing or agriculture, or of preparing the ground, and sowing crops, in the way civilized nations do. The poorer classes make their cloths from the pith of a nettle which is procurable in great abundance, and which makes a very fine fibred hemp. The bay leaf is a native of the higher mountains, as also a small species of wild orange. The country between the Sumoogoding ridge and Dhejna is remarkably fine, particularly so on the banks of the Dhunsiree, which much resembles the species of forest scenery found in America, and remains uncultivated only from the fear that is entertained by all the ryots, &c. of these wild Angamees. The Dhunsiree, I should think, would be navigable for canoes at parts of the year up to the point I crossed it.



N<sup>o</sup> II Diagram of the Hurricane on the 4<sup>th</sup> June 1839 reduced to half-scale from the General Chart.

Outer circle 374 miles in diameter

Time, Noon





ART. II.—*Report by Lieut JOHN GLASFURD, Executive Engineer Kumaon division, on the progress made up to the 1st May, 1839, in opening the experimental Copper Mine in Kumaon.*

The ground selected for the experiment is at Pokri in the Perunnah of Nagpoor in Gurhwal, where mines of Copper have long been worked.

The mines, or rather excavations, are numerous, and are situated on the western side of a steep hill in talcose schist and clay slate. The soil is extremely soft and decayed, and has defied all the efforts of the present race of native miners, according to whose accounts the workings do not extend beyond 120 feet from the entrance in any of the excavations, which are constantly liable to accidents, and of which a new one is generally commenced after every rainy season. It is however universally admitted that the Pokri mines have been very productive, and it is said that the one known by the name of the Rajah Kān, yielded one year upwards of 50,000 rupees. Judging from the ruins of the houses, workshops, &c., and the accumulation of slag, the working must have been carried on, on an extensive scale.

The village of Pokri is situated about 6,100 feet above the level of the sea, and 3,800 above the Alukmenda river, from which it is distant nearly nine miles; the distance from Almora is eighty-six, and from Breenuggur little more than thirty miles, and to both of these places there are good roads. The climate is good but changeable, owing to the vicinity of the Snowy range; and the temperature is from the same cause as cold as that generally found at elevations from 7,000 to 7,500 feet. The vegetation, as might be expected, is European in its character, and the forests of oak, rhododendron, and the common long-leaved pine are almost inexhaustible in the immediate neighbourhood of the mines. During the greater part of the year there is water sufficient for washing the ores in the immediate vicinity, and at a distance of about two miles, there is enough for the purposes of machinery throughout the year. The village consists of eighteen to twenty-two houses, and from sixty to eighty inhabitants, who are chiefly of the Chowdry and Mining castes. The right of mining was rented by them from Government on a quinquennial lease of 100 rupees per annum, which expired about a year ago; but the people are so poor, and their resources so limited, that they have been unable to undertake any new lease, and indeed before the present experiment was commenced they hardly attempted more than the re-smelting portions of the slag from the old working.

The mining ground lies in two ravines, both on the western face of the hill, and about 500 yards apart, separated by a low ridge, the direction of the ravines being nearly east and west. The most northern of the two, and in which the village is situated, is where the old mine called the Rajah Kān was. The right, or northern side of the ravine is of dolomite, the left being talcose schist, which forms the ridge separating the two. The southern ravine is known by the name of Chumittee and is full of old excavations; the formation is talc, bounded on the south by a dolomite limestone, and on the north by the low ridge of talcose schist through which in one or two places granite protrudes. Besides these, there are several other localities on the same hill where copper has been extracted; one very promising situation is an old mine known by the name of the Dandu Kān, or hill mine, about four miles from Pokri and there are also many other places in the Pergunnah of Nagpooor where copper is known to exist.

The experimental works now in progress were commenced in January last, and consist of two adits, or galleries, one in each ravine; that in the northern, or Rajah Kān ravine, has been driven and secured with timber to a distance of  $149\frac{1}{2}$  feet from the entrance; the gallery is six feet high by three feet wide, and the frames, which are oak branches of three and a half to four inches diameter, are placed from two to two and a half feet asunder; the top and side sheeting are also of oak branches the diameter of which is about two and a half inches. The gallery is being carried in with a slope of one inch per foot nearly on the ruins of an old working, which has been roughly secured with timber, but has long fallen in. The soil is an alluvial deposit filled with masses of rock, chiefly of dolomite, and the water proceeding from the gallery is slightly impregnated with sulphate of copper. When about sixty-three feet from the entrance the superincumbent soil gave way, and fell in on the head of the gallery; this breach has been cleared and converted into a rough shaft, which at present answers for the purpose of ventilation, but as it is directly in the line down which the water runs in the rainy season, it will probably be necessary to close it.

In the Chumittee ravine a gallery has been driven and secured with timber to a distance of 111 feet from the entrance; it is in size and mode of timbering exactly similar to the other, the slope averaging only half an inch per foot. The first seventy-five feet were driven through talc slate, with occasional beds of quartz, in which were small quantities of copper pyrites; the next six feet passed through an old working which apparently went down obliquely, and had been regularly timbered with deal; on reaching this working, traces of copper were found, but were lost on entering it. The next twenty-four feet went

through firm tale slate in which copper ores, in trickling strings, and also disseminated, were found. The ores were of various kinds, but vitreous copper ore predominated. From these twenty-four feet fifty-eight or sixty seers of rich ores, worth about twenty per cent. of copper were obtained, one-half of which reverted to the miners, according to previous agreement, also a quantity of stuff supposed to contain about forty maunds, which would probably produce twelve to fifteen per cent. of copper. The last six feet of the gallery passed through another old working exactly similar to the former, and which also appears to have gone down obliquely. A perpendicular shaft has been commenced 150 feet from the entrance of the gallery, for the purpose of ventilation; it has been sunk to a depth of thirty feet, and it is expected that by the time this shaft has attained the requisite depth, the gallery will have advanced far enough to join it. The dimensions of shaft are 6×3, the frames are of oak, and the sheeting fir; the first three feet were through alluvial deposit, the next ten through tale slate, and the next five through what appears to have been an horizontal adit filled with deal timber and blue talcose mud, ten pounds of which on being washed, left four ounces of ore, worth probably ten per cent. The remaining twelve feet went through alternate talc and dolomite, or rather having talc on the north side and dolomite on the south. The water oozing from the old working has much impeded the shaft, the quantity discharged by wooden buckets averaging daily about 500 gallons.

The supply of iron required for the works is obtained from the mines of that metal in the Khutsaree valley, about forty miles from Pokri, on the road to Almora. In this valley there are large repositories of compact red iron ore in clay slate, containing beds of limestone. The manufacture of iron is carried on here more extensively than at any other place in the province, and the metal produced is considered superior to any other here manufactured. There is no want of iron ore in the district, and it exists in many places nearer to the Pokri mine than Khutsaree. At Dewalgurh, half way between Pokri and Sreenuggur, good iron is worked, and about two miles south of the village of Pokri there is an old deserted mine, the specimens from which are specular iron ore, which might probably be worked with advantage.

The present race of native miners have been at Pokri for three generations, and have no recollection or tradition of fir timber having been used in the mines; and until it was found on the old workings, they strongly protested against the use of it. The timber found in the Chumittee gallery appears to have been put together with considerable

care, and where firmly bedded in the mud is perfectly sound, but where at all exposed it is much decayed.

The natives of the place are well satisfied with the experiment as far as it has gone, and the applications for employment are more than required; they are also very willing to adopt any improvement on their own rude system, and readily falling into and becoming expert in the use of the tools, &c. The work in the galleries has been performed partly by contract and partly by hired labour; in the former mode the rate paid is about one rupee per foot with half the ores found, and in the latter two annas per day. In the Chumittee gallery the people prefer contracting, in the hope of obtaining profit from the ores found; whereas in the Rajah Kān gallery, as no copper can be expected while passing through the alluvial deposit, they are not at present willing to contract.

The result of the experiment so far may be considered satisfactory, and it is quite certain that copper in considerable abundance has existed in the ground through which we are now passing in the Chumittee ravine, assuming that this ground has been more or less disturbed to a depth of 120 feet—the greatest the native miners say has ever been attained by them, although I question if ever they got so far. We may reasonably hope that by the time the gallery has reached to a distance of about 280 feet we will enter upon ground hitherto untouched, and until this is reached no fair criterion of its capabilities can be formed. I do not expect to make much progress during the rains, owing to the very loose nature of the soil; wherever we have passed through old workings considerable delay has been experienced from the constant falling in of the soil.

(True Copy,)

H. T. PRINSEP,

4th July, 1839.

Secy. to the Govt. of India.

ART. III.—*Account of a Journey from Sumbulpūr to Mednipūr, through the Forests of Orissa.* By LIEUT. M. KITTOE.

(Continued from page 383.)

I resumed my march towards Mednipūr at 3 A. M. the following day, and reached Deogurh, the capital of the Baumurra district, at 8 o'clock; on leaving, it was too dark to see any distance, this was of no consequence, as there were high hills close on either side. I had to descend a slight ghāt, at the foot of which I crossed the Burghat torrent; were the dawk road to pass this way it would be necessary to have a suspension bridge over it, likewise on most of these hill torrents. For the first





For miles the path is very circuitous, winding round the bases of several hills, there are many water courses, and the number of loose stones of various sizes strewed about, render it very painful to travel over. The Saul forest is very dense, and there are some very fine timbers, it continues for five and a half miles. Our course thus far had upon the whole been north-easterly, we here turned to the southward, in which direction we continued for a short distance, and crossed a shallow running stream called Jurrítóora, flowing to the right; we then came upon an open spot in the centre of a beautiful plain, with fine mango topes around it; this was a Bunjara halting place; there was formerly a small hamlet close by, but during the disturbances between the Raja and the Sumbulpúr people, some years ago, it was destroyed. Half a mile further forward the same rivulet is recrossed, the road then turns to the eastward, and together with the stream passes through an exceedingly narrow defile, called Juraikilla, into the valley of Deogurh; the hills are exceedingly high on either side, those to the left (or north) have faces nearly perpendicular. There are the remains of a stone wall and of a stockade, by means of which the Deogurh people are said to have often successfully defended themselves against their invading enemies.

On passing the defile the valley appears in all its beauty, extending west to east as far as the eye can reach, widening with a perceptible fall in that direction which is towards the valley of the Brahmení river, into which the Jurrítóora rivulet empties itself, after winding along the valley at the foot of the hills skirting its southern boundary. The view from the pass, looking east, is exceedingly beautiful, indeed nothing could be more grand. About two miles in advance, I came to a large village called Kainsur, between which and the pass I had thrice to cross a large nullah and several smaller water-courses, over all of which it would be necessary to have bridges. After resting a little, I continued my journey, and passing several large villages, including old Deogurh, reached the modern town of that name, distant  $13\frac{1}{2}$  miles from last ground. I found a large red and white tent ready pitched for me by the Raja's orders, and an abundance of supplies had been collected; this civility was quite unexpected, but there was probably a reason for it.

Deogurh is a large straggling village, distant one mile from the hills on the northern side of the valley, which may here be about two and a half miles wide. The Raja's *Noor*, or palace, together with some small temples are the only pucca buildings; there are small water-

courses or aqueducts passing through every street and garden, the water being conducted from the famous cataracts which is in the hill just above the town ; the fields for several miles are irrigated from these falls. I was too much fatigued on my arrival to look about me, added to which it was late in the day.

Although the apparent comfort of a tolerable good tent was thus provided, I had more reason for anger than pleasure, for I had sent on part of my guard and the Political Agent's Muktar (an Ooriya)—who had been so officious in attempting to prevent my coming by this route—to have a bower prepared in some shady spot, distant at least two miles from hence, and had given most positive orders on this head ; for in the first place, I wished to avoid an interview with the Raja, travelling in the uncomfortable manner I was forced to do ; secondly, I wished to put it out of the power of my followers to extort money, "*Salami*," from him, a regular practice with native servants of political establishments, particularly with the worthies of Cuttack, two of whom accompanied me\* on the present occasion. This kind of systematic plunder is perhaps one of the chief causes of aversion the inhabitants have to our making a thoroughfare in their different states.

I suffered more from the heat this, than on any of the previous days of my journey, but towards 3 P. M. a severe north-wester came on, followed by a heavy shower of rain, which cooled the atmosphere for the time being, but the steam from the wetted ground rendered the heat at night nearly suffocating.

The Raja paid me a visit at 5 P. M. he is a fine handsome lad, of about eighteen years of age, but rather effeminate ; he does not appear to be very wise. He expressed great anxiety about the new road, and begged I would not bring it through Deogurh, as there were (of course) other much better paths, but that if I did do so, that Lehragurh and

\* When I went on my tour to the Coal Mines of Taleher last year, I was informed, on credible authority, that a Chuprassie of the Commissioner's establishment who accompanied me, had declared that the trip was worth fifty Rupees to him, and that he wagered that he would not make less before he returned to Cuttack. This man subsequently gave me much trouble by his unceasing attempts to lead me by a round-about route through Dhenkernalgurh, Hindolegurh, Ungoolgurh, that he might secure the usual nuzzers which the Raja's offer on paying their first visit ; and when he found that I was not to be led, he prevailed upon me to allow him to go to Dhenkernal with the Commissioner's Purwanah, assuring me that unless he did so I should get no supplies or aid ; he again attempted the same trick in Ungool, but I prevented him, and suffered no small inconvenience in consequence ; yet this man was the most active and best informed person on the establishment.



Keunjurgurh must have the road through them likewise, for it to be it all a straight line; there was more in this sapient remark than meets the eye; part of the meaning is this,—that if he were to have the nuisance imposed on him, he thought that the Lehra and Keunjur Rajas should share it likewise. I was subsequently informed that he had paid a good deal of money to some of Mr. Babington's people and to my own, to ensure their good services in dissuading me from adopting this line.

The Raja when about to leave, let me know through the medium of his "*Spreach sprucher*" that he had a very urgent request to make. I requested him to speak out, when he told me a long story about some Mussulman Saudagurs from Cuttack who were sitting *Dhurna*\* at his gate, wishing to insist on his paying them some debts of old standing, with compound interest thereon, and that he wished me to interfere in his behalf, as he was about to proceed himself Cuttack to wed a daughter of the old ex-Rani of Sumbulpur; having no power to interfere I declined doing so, further than recommending the merchants to have patience; accordingly directed their attendance in the evening, took leave of the Raja, and proceeded immediately to see the falls, where I was told that there were many "*Assura ka hār*" or giant's bones, a denomination generally applied to fossils; so that I proceeded with all haste, expecting a fine harvest. It was becoming dark just as I reached the lowermost basin of the falls, in a beautiful woody recess, the rocks towering several hundred feet above. I never saw a more enchanting spot, the mango and other trees growing to an incredible height. There are five falls and as many basins formed by them; the height of each may be about seventy or eighty feet; the volume of water is considerable. I climbed to the second basin, and there waited till torches were procured to enable me to see the "giant's bones," but, lo! what was my disappointment when I found that these said bones were nothing more than large masses of stalactite in which were fantastic caves. The inhabitants make lime with it, as an ingredient for their paun and betel nut, and their method of burning it is rather singular; some hold a slab of stone with a heap of lighted charcoal against the roofs of the caves; the parts affected by the heat drop off into the fire, which is then extinguished, and the particles of lime separated from the coal. Another

\* Sitting *Dhurna* is a common practice with natives who wish to attain any particular object; the custom is, to sit at the door or gate of a person without taking food or drink until the party entreated yields, and should the petitioner die, the curse of his blood is supposed to rest on the latter.

method is this, a few small pieces of the rock are put into a wisp of damp rice straw along with some lighted chareol, the wisp is then wound up into a ball as tight as possible and tied to a string, by which it is kept swung smartly round until the lime is ready, this the burn-ers know by the state in which the wisp appears. This praetiee I have observed elsewhere in use in burning the limestone nodules (Kunkur) for the same purpose. But to return to the falls—I could not see much by toreh-light though I had several, the glare of which added to the magieal appearance of this truly romantic spot; a cold breeze blows down from the upper falls, which the guides assured me never ceased all the year round. There are several fabulous stories eonneeted with the spot, and a large serpent is said to inhabit one of the caverns, which is not however improbable.\*

I felt very much inclined to halt and pass a day here, but the rains having commeneed, it would have been dangerous to prolong my stay in jungles, I therefore returned to camp where I found the merchants in attendanee together with the Raja's people; the former seemed little inclined to listen to any terms short of payment in full of their exorbitant demands; the latter urged the inability of their master to pay more than 250 Rupees out of 3,000 with an I. O. U. for the balance when he should return from Cuttack with his bride, and, what to him was perhaps more valuable, her dowry.

I should here observe that there are many Mussulman and other merehants who come from Benares and Cuttaek with indifferent horses and inferior merehandize of kinds, which they pawn upon the ignorant grandees of these outlandish places; they give long credit on promise of interest, and consider themselves lucky if some few years afterwards they realize the amount of purchase money, which from its exorbitant nature, renders ample remuneration for the trouble and delay they are subjected to, sometimes having to wait for several months together, being put off with repeated promises of payment, and as many plausible excuses for non-payment, till at last an order is given them upon the farmers of one or more villages who may be in arrears to their lord; from these the merchants serew as much as they ean, the amount of which, of course, very much depends on their power and temper, and

\* Mr. Motte in his Narrative describes an enormous serpent called *Nagbunse*, which is worshipped some where near Sumbulpúr, see p. 82, Asiatic Annual Register, Vol. 1. I have been told that this reptile is still in existenee, and that the diamond washers make offerings, if they neglect which, they suppose their search will be fruitless.

serious frays are not uncommonly the consequence. Formerly the commissioners and political officers used to interfere and enforce payment to the merchants, but I believe this bad practice has been discontinued, I think that if a few merchants were licensed to proceed into the Gurlijat, previously manifesting their goods, and paying a light tax to cover the expense of a registry of them, and of their fair market value, upon an understanding that the settlement of any unadjusted claims on any Zemindar would be insisted on to the extent of a reasonable profit, much good might accrue, and a great deal more merchandize, both European and country, would find a ready sale with advantage to both parties.

The merchants seemed to agree to the terms proposed, when the motley group retired and left me to enjoy as much rest as the steaming heat and stunning noise of frogs and *chicadas* would allow of.

27th May. I rose at a very early hour, when having dismissed half the guard of the Ramgurh Battalion and that of the 19th N. I. and the Political Agent's Mooktar, whom I had yesterday directed to return to their stations viâ Sumbulpûr by the Baghlot ghat and the road which had been hidden from me, I proceeded on my journey. I walked several miles through a thick but low jungle, along a very good road, to a place called *Ŝonamoonda*, where I rested a little to allow the stragglers to come up; thus far my course was a little to the northward of west, having the hills at a short distance to the left, the path then began to wind considerably more than any obstacles rendered it necessary, and upon the whole in a southerly direction. The forest is very thin, with no underwood, and the ground undulates considerably; there are several large nullahs and a great many small water-courses, almost all of which would require bridging. The next place I reached was a large village of *Guallas*, called *Korapeeta*, situated on an elevated spot in the centre of an extensive plain, on to which the Deogurh valley opens; from hence the ground (still undulating) has a perceptible fall towards the Brahmenî river, on the banks of which, at a place called *Barsing*, I encamped for the day. I took up my quarters in one of several large huts which Major W——'s Mooktar and the guard of the Ramgurh Battalion had had constructed while awaiting the arrival of my predecessor. I have learnt sufficient regarding the oppressive conduct of these knaves to satisfactorily account for the Mooktar's anxiety to prevent my travelling by this route; it appeared that he had passed himself off with the credulous Zemindars here, as the Political Agent's assistant and friend!!—and used to have *dállis*, &c. &c. sent

him daily. I felt the better pleased at having dismissed this worthy at Deogurh, for he was more a hindrance than otherwise to my operations.

Barsing has been a large place, but famine, misrule, and cholera have reduced the number of inhabitants to one-half, so that many of the huts are in ruins. The river flows under the village; though its span here is very great the water is shallow, and wends its way in small rills between numerous rocks and islets which every where stretch across the bed; the banks are not more than eighteen or twenty feet high, and are seldom overflowed, so that the river can never rise sufficiently to admit of boats navigating it with safety; this alone would be a sufficient reason to seek for a more favorable spot for the road to pass, which might be found five or six miles either above or below this point, where the banks are steep and rocky, and the water confined to deep and narrow channels, equally well adapted for ferries or suspension bridges; the latter would, for many reasons, be very desirable both on this and other rivers.

I passed this day with more comfort than usual; the hut I occupied was under a cluster of noble mango and tamarind trees, and facing a beautiful shady tope; it was a paradise contrasted with what I had hitherto met with; I could not help reflecting on the truth of an admirable saying of Demetrius, quoted by Addison in the chapter treating of the Providence of God, that "nothing would be more unhappy than a man who had never known affliction;"—a truth deeply impressed on my mind, to which I would add, a similar maxim which called it to mind, "that he who has never experienced discomfort and privation, cannot appreciate real comfort, or know the virtue of contentment." I cannot here refrain from acknowledging the consolation I felt, and the hope of conquering all my difficulties, the frequent perusal of the beautiful chapter above mentioned inspired me with during the severe trials I had lately suffered; many were the times when nearly driven to distraction and despair, its perusal made me happy in my misfortune. Reader, pardon this digression. To return to my narrative. About 4 P. M. a very severe north-wester came on, followed by a very heavy fall of rain and hail, which lasted until 6 P. M.; it cleared before sunset, so that I was able to observe and sketch the features of the country, but could not resume my march, for there was every indication of bad weather. I began to feel uneasy at the prospect of the evil effects of the rain, and I resolved passing the night here, and to push on at all hazards at day-break.

(*To be continued.*)

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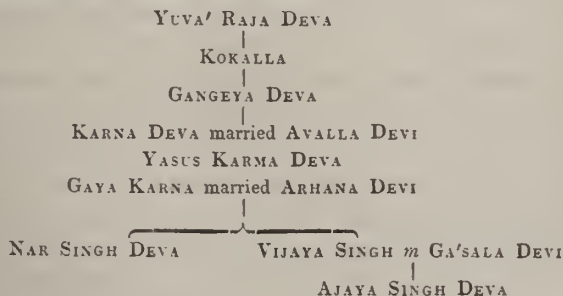
ART. IV.—*Notice of a Grant engraved on Copper, found at Kumbhi in the Sangor Territory.—By the Editors.*

We present our readers with another *Tamba Patra* in the original, and with a translation which we have made. DR. SPILSBURY has obligingly presented this valuable relic of antiquity to the *Asiatic Society*. He writes, that “the two Copper plates joined by a ring seal were dug up at *Kumbhi*, on the right bank of the *Herun* river, thirty-five miles north-east of *Jabalpoor*, and were forwarded by Major Low, Magistrate of this district. The letters engraved on the plates are in great preservation, and from their date upwards of 900 years old, corresponding nearly with inscriptions in stone in the same character (facsimiles of which were forwarded by the late Major FRANKLIN to the Society). “Something may be gleaned of the period when a large city existed, only six miles west of *Jabalpoor*, now to be traced by little more than mounds of bricks and cut stones.”

The skill and kindness of Lieut. KITTOE, has enabled us to prepare a plate exhibiting facsimiles of the seal and specimen of the letters, together with a table which shews the alphabet of the plates in juxtaposition with the modern Nagri alphabet. The character of the plates approaches that of the *Rajgarh* slab, of which we published the inscription in our *March* number by oversight.

Lieut. KITTOE's neat engraving was published in our *May* number ; to which we refer our readers. The Seal is that of SRI-MAT VIJAYA SINGHA DEVA. The Legend is DURGA in her form MAHA LAXMI supported by two Elephants. At the foot is the Bull of SIVA.

The grant gives us eight generations of the *Kula-Churi* dynasty, beginning with YUVA RAJA DEVA, who was a descendant of the renowned KARTTA VIRYYA of the race of BHARAT.



AJAYA SINGH DEVA, VIJAYA SINGH, as heir apparent, by order of his mother GA'SALA makes the grant to the Brahmin SITHA SARMA in the year Sambut 932, or A. D. 876. It is more ancient by 87 years than the *Rajgarh* inscription communicated by Captain BURT.

This grant does not give us any important information. We obtain from it however for eight generations a line of Rajas who ruled in those parts, and it will be observed that a remote ancestor of the grantor married a *Hun*. Unless this be a poetic fiction, it may imply that Hindu princes in remote times assumed some latitude in the selection of wives,—more perhaps than is allowed by the strict law. We presume that the *Huns* were not true Hindus. We have also the designation of the highest officers of Church and State. The high priest,—the chief Confessor—the Prime Minister—the Chief Councillor—the Principal Secretary for foreign affairs—the Chief Justice—the incorruptible Superintendent of Police—and the Chamberlain. The titles given to the ruling prince are most elaborate. Amongst his dependent chieftains are enumerated the *Gaja-pati*, *Aswa-pati*, and *Nara-pati*—titles peculiar probably to particular chieftains. The grant, for redundancy, might be envied by an English conveyancer. The quaintness of some of the old Hindu names may be also observed from this grant. Several of the names are quite obsolete.

The initial verses of the grant are not devoid of merit, but are not so elaborate as the poem on the *Rajgarh* slab.\* The perorations of grants of this class have always many verses in common, of which some seem to be *puranik* quotations. These deprecatory and imprecatory verses occur with various readings. We have copied, with alterations suitable to our text, Mr. Colebrooke's versions of a few; one,—the forty second verse—is of peculiar beauty and dignity, and in the translation the classical pen of that distinguished orientalist may be recognized. The imprecations against the resumer are terrific: perhaps they were prophetic. "That rascal who by delusion of avarice, &c."

The inscription was composed by BATA RAJA *Dasa-Mulika*, or *Dasa-MULI*, the chief Justice who witnessed the gift. We have been much puzzled by this unusual term. It seems to be a title denoting the capacity of the dignitary for business. There are a few orthographical errors in the plate, which we have noticed. They seem due to the ignorance of the engraver, the "smith LEMA."

\* See our March No. Art. I.

It may be observed that in this and other grants the grantor gives the property in the soil, and says nothing of holding tax-free. May it be inferred from this, that the Raja was under the old *Hindu* system considered as the owner of all the lands in his dominions, and that where he wanted in proprietary right, the tax-free tenure or exemption from rent to the state, was implied as a matter of course?

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TRANSLATION.

OM glory to BRAHMA.

1. That deity (1) whose navel is a lotus prevails; and so does the lotus his navel. Excellent too is the lotus-born god (2) produced therefrom; excellent is his offspring, that ATRI; and after them excels that luminary beloved by the ocean, who received his birth in the cavity of his eye.

2. That luminary which glides in the ærial expanse, like as it were a swan on a lake, begat as his son, BODHANA (3), the first prince, a son-in-law domiciled in the mansion of the lotus-loved luminary (4).

3. The son of the god, who rules the waters, obtained as his son URURAVAS,—him whose concubine was URVASI (5), endowed with numerous incomparable qualities and whose wife was URVARA'.

4. In that race was born BHARATA (6). He was enamoured of the earth (*Viswambhara*), lovely by her ornament, the ocean, encircling her as a girdle, and whose pure glory rivetted as it were on the pillars of more than a hundred *Aswamedhas* is proclaimed by the YAMUNA.

5. In his race, excellent is that KARTTA-VIRYYA, that warrior wielding without effort every weapon, as if by second nature. Then he supplied the name of *Raja* (7) to the Hare-spotted luminary, the progenitor of his race.

6. That monarch, the lord of kings (firm as the snowy mount), begat the *Kulachuri* race, distinguished by sovereigns spotless in their conduct like pure pearls.

7. In his line was the king YUVA-RAJA-DEVA, foremost of the virtuous, who had purified his capital like the city of *Purandara* (8),—a youthful lion in quelling of kings the pride, which resembles some vast elephant blind with rage.

(1) BRAHMA. (2) VISHNU. (3) *Alias* BUDHA, the regent of Merury, or the Planet itself. (4) The Sun. Mercury is said to be domiciled in the mansion of his father-in-law the Sun, from his approach to that luminary in parts of its orbit. (5) The celestial courtesan. (6) BHARAT is the king, by whose name INDIA is yet designated, *Bháratu Varsha*. (7) Shining. (8) INDRA.

8. Of that lord of the world, the principal ministers placed on the throne his son KOKALLA, whose expanded armies (consisting of four arms (9)) were stopt by conflict with the four seas ;—

9. Of whom going forth afar, the glory shewed like a forsaken woman far surpassing white sandal wood ; it reprov'd the lustre of the moon and eclipsed a string of pearls.

10. Whose son was GANGEYA-DEVA, the lord of the fortune of the bold,—a falling thunder-bolt on the heads of his enemies,—by his arm surpassing the length of a city bar. He whose face was decked with smiles, and whose broad chest shewed like an emerald tablet.

11. To whom was dear the abode at the root of the holy fig tree at *Prayag*. When he had obtained emancipation in a better world with his hundred wives, his son KAMA-DEVA revered the various quarters by pearls extracted from the frontal orbs of elephants, rent by his sword.

12. By whom was created a pillar in honor of BRAHMA, called *Kurnavati*, as if the mansion of that divinity in this nether world,—the foremost abode of the virtuous,—the root as it were of the twining plant of theology, and the diadem of the stream flowing from heaven.

13. By that lord of the *Kuluchuri* race, on his wife AVALLA DEVI another LAXMI produced from the ocean of the race of *Huna*, was begot YASASKARMA DEVA, adorned with glory co-extensive with the billows of the ocean, swelling as they did in the doubt of the rise of the luminary who cherishes the hare.(10)

14. Of whose enemies, for an instant, the condition was as if they had repaired to the banks of some lake in the cavity of some great hill, and there perceiving their images in the water like a confronting enemy, they hear the echo of the words “he is come,” interchanged in their terror. What beyond this?

15. His son was GAYA-KARNA, of great renown ; whose mistress was the earth stained(11) as if replete with the blood, from the throats of his powerful enemies wounded in war.

16. Eager to expand the canopy of his glory in all quarters, adorned with virtue and robed in majesty,—by whom planted, the thorn of grief rankles in the hearts of the beloved of his enemies.

17. On his Rani, ARIHANA DEVI, he begat a son, NARA SINGHA, lord of men ;—as if a sentient effort on volition.

(9) The four *angas* or arms of an army are elephants' cavalry, cars, and infantry.

(10) The play on the words is lost in the translation. The damsel separated from her lover in Hindu Poetry reproaches the moon. This is a strong hyperbole.

(11) A pun is lost.



18. By largesses of gold (*hiranya*) and clothes (*kasipa*) did he hew great love to the learned (*vibudha* (12)) and robbed of his pride he god of love, by eclipsing his beauty.

19. Who in the hands of Brahmins placed five or six gifts, in the form of drops of water—and they with these, quenching their thirst, abashed the ocean which abounds in gems.(13)

20. That sagacious king, who extended his popularity, gratified suplicants with presents commensurable with his weight and other gifts.

21. Who not less than PARAS RAM (14) produces envy,—making the world the dominion of *Brahmins* by destruction of the *Kshatrayas*.

22. His younger brother was the king JAYA SINGH DEVA, served by alien kings; by whose liberality its glory eclipsed,—RAJA BALI, another heavenly tree, withered beneath the surface of the earth.(15)

23. On hearing of the coronation of JAYA SINGH DEVA, the king of *Gúrjara* deserted his weak kingdom, so also the TURUSHKA; while the chieftain of *Kuntala* neglected amorous dalliance; other kings too *laffing the world aside*, fled beyond the ocean.

24. Of the moon, of whose glory by the light the atmosphere being rendered brilliant, the descending flocks of birds hardly appeared white.

25. Excellent is his son, the king VIJAYA SINGH, a lion amidst his defeated enemies—a ray reposing on the firmament—a sun on earth, adorned by wide extending glories, the abode of amiable qualities, and the shrine of auspiciousness.

26. May she be honored, the illustrious GA'SALA DEVI, of whom,—the light is as a shower of nectar,—proximity a pure treasure,—and the voice like the rare gem *Chintamani* (16)

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### Prose.

The chief object of homage—the INDRA of the world—the divinity of dependent kings—foremost of the devout in the contemplation of the set of VA'MA-DEVA(17)—a god amongst principal and inferior kings—the chief of the devotees of SIVA—lord of *Trikalinga*—lord of the three principalities of the *Gaja-pati*, *Aswa-pati*, and *Nava-pati*—of the victorious VIJAYA SINGH DEVA, the heir apparent prince AJAYA

(12) A double sense pervading this is lost. (13) A preliminary rite preceding it is pouring some drops of water on the palms of the donee. (14) VISHNU assumed the form of PARUS-RAM to quell the pride of the XATRIYAS. (15) RAJA BALI is celebrated for his liberality. VISHNU, as the dwarf, asked him for three feet of soil which were granted. But the god's expanded feet embraced the whole world. Unable to keep his promise, the king was condemned to hell. (16) *Chintamani* is a fabulous gem, supposed to yield its possessor whatever may be required—(WILSON).

(17) SIVA.

SINGH DEVA, son of the great Rani convened the following persons,—SAIVA ACHA'RJYA BHATTARAKA, the great minister,—VIDYA DAIVA, the *Raj-Guru*,—the *Pandit* YAJNADHARA the chief *Porohit*,—the lord SRIKIKI, the great counsellor, pre-eminent in faith,—the Lord DASA MULIKA, BATSA-RAJA, the chief judge (18) and reporter of state affairs(19),—the lord PURUSHOTTAMA, the principal secretary for foreign affairs(20),—the great chamberlain(21),—the incorruptible superintendent of the police (22),—the treasurer (23),—the master of the horse and elephants,—also other persons resident of the village about to be given. After this, as becometh, he addresses, explains, and orders thus: “Be it known to you, Sumbut 932, on the anniversary of the age, at *Srimantipuri* with my assent, by my mother GA'SALA DEVI, who had according to ordinance bathed in the *Narmada*, and worshipped MAHADEVA for the sake of augmenting the merit and glory of her parents and self, to the Brahman SITHA SARMA (the son of CHHITU *Pandit*, grandson of SULHANA *Pandit*, and great-grandson of JANARDANA *Pandit*, follower of the metrical veda(24) of the *Sāvarna Gotra*, and devoted to the five *Pravaras*(25)—BHARGAVA .CHYAVANA APNAVAN AURVA JAMA DAGN) was given, under a grant, the village *Choralaga*, in the *Patala* of *Sambala*, limited by four boundaries, but exclusive of such four limits,—together with pasture for kine, water and land, mango trees and honey, salt-mines, salt-pits,—with right of ingress and egress, with wilds and marshes, with trees and grass, and so forth rising spontaneously, (*part obliterated*,) together with woods and forests, without any let or hindrance. This is the prayer of the giver.”

27. RA'MABHADRA again and again exhorts all those future rulers of the earth: this universal bridge of virtue for princes, is to be preserved by you from time to time.

28. And it is said. By many kings, SAGARA as well as others, the earth has been possessed. Whose-so-ever has been the land, his has then been the fruit.

29. He who takes a single tolah of gold, a cow, a finger even of land, abides in hell until the general annihilation.

30. The resumer of land is not expiated by one thousand pools, by a hundred sacrifices of horses, by the gift of ten million of kine.

31. He who resumes land, whether given by himself or by another, is born an insect, in ordure, and sinks with his forefathers.

(18) Mahāxa patālika. (19) Maha pradhanartha lekhi. (20) Maha sādhi-vigrahika. (21) Maha pratihāra. (22) Dushta sadhya charā dhyaya.

(23) Bhānda garika. (24) Sama Veda (25) Each Gotra has its tutelary or Patriarchal *Rishi*. The *Pravaras* are the companions of the *Rishi*.

32. Furrowed by the plough, together with seed,—in proportion as he gives culturable land acquired by himself, does he abide in heaven.

33. The giver of land dwells sixty thousand years in heaven. The resumer and the abetter live so many years in hell.

34. They who seize property dedicated to the gods or Brahmins are born black snakes, residing in dry caves, in woods destitute of water.

35. Wrongly taken, or caused to be taken, of the taker or causer, the race until the seventh degree burns.

36. Those of our lineage say—This gift is to be respected. The fortune of men is fickle, like bubbles of water; gift is the fruit of another, and therefore to be preserved.

37. For the benefit of the subject, the wise should regard fixed ordinances. That rascal who by delusion of avarice resumes, suffers a miserable existence.

38. The gifts, which have been here granted by former princes, producing virtue, wealth, and fame, resemble orts and vomited food. What pure man would resume them?

39. He who receives lands, and he who gives, both are virtuous doers, and certainly go to heaven.

40. A conch, a coach, a parasol, lands, a horse, a good elephant, are the indications of land-giving. This is the fruit, Oh PURANDARA.

41. In this race and in another race whoever may be king, of him a suppliant, I beg with clasped hands—Let him not resume this grant.

42. This sovereignty of the earth totters with the stormy blast; the enjoyment of a realm is sweet but for an instant; the breath of man is like a drop of water on the lip of a blade of grass;—virtue is the greatest friend in the journey to the other world.

43. Born in my race or in the race of other kings, those stern monarchs of futurity who may preserve the lands of gods and priests, in honor of them do I place my clasped hands to my forehead.

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*Prose.*

Written by BATSARAJA, son of SRI DHARMA removing wounds, a stranger, and capable of ten works. The Pundit SRI KESAVA caused to be written, and the smith named LEMA engraved. Be there auspiciousness.

ओं नमो ब्रह्मणे ॥

जयति जलजनाभस्तस्य नाभीसरोजं

जयति जयति तस्माज्जातवान्वजसूतिः ।

अथ जयति स तस्यापत्यमत्रिस्तद्दृष्ट्वा

स्तदनु जयति जन्म प्राप्तवानविधवन्धुः ॥१॥

अथ बोधनमादिराजपुत्रं गृह्णामातरमवजवान्धवस्य ।

तनयं जनयाम्बभूव राजा गगनाभोगतडागराजहंसः ॥२॥

पुत्रं पुष्टुरवसमौरसमाप सूनु

र्द्वैवस्य सप्तजलराशिरसायनस्य ।

आसीद्दन्यसमभाग्यशतोपभोग्या

यस्योर्वशीच सुकलत्रमिहोर्वरा च ॥३॥

अचान्वये किल शताधिकसप्तमेध

यूपोपरुद्धयमुनोक्तविविक्तकीर्तिः ।

सप्तान्धिरत्नरसनाभरणाभिराम

विश्वम्भराशुभरतो भरतो बभूव ॥४॥

हेलागृहीतपुनरुक्तसमस्तशखो

गोत्रे जयत्यधिकमस्य स कार्तवीर्य्यः ।

अत्रैव हैहयनृपान्वयपूर्वपुंसि

राजेतिनाम शशलक्ष्मणि चाकरोत्सः ॥५॥

स हिमाचल इव कुलचुरिवंशमसूत क्षमाभृतां भर्ता ।

मुक्तामणिभिरिवामलवृत्तैः पूतं महीपतिभिः ॥६॥

तत्रान्वये नयवतां प्रवरो नरेन्द्रः

पौरन्दरीमिव पुरीं स्वपुरीं पुनानः ।

आसीन्मदान्धनृपगर्वगजाधिराज

निर्माथकेसरियुवा युवराजदेवः ॥९॥

सिंहासने नृपतिसिंहममुष्य सूनु

मारुरुपन्नवनिभर्तुरमात्यमुख्याः ।

कोकल्लमर्णवचतुष्टयवीचिसंघ

संघट्टरुद्धचतुरङ्गचमूपवारं ॥८॥

इन्दुप्रभां निन्दति ह्यारगुच्छं

जुगुप्सते चन्दनमाक्षिपन्ती ।

यत्र प्रभौ दूरतरं प्रयाते

वियोगिनीव प्रतिभाति कीर्त्तिः ॥९॥

मरकतमणिपट्टप्रौढवक्षाः स्मितास्यो

नगरपरिघदर्घ्यं लंघयन् दोर्द्धयेन ।

शिरसि कुलिशपातो वैरिणो वीरलक्ष्मी

पतिरभवदपत्यं यस्य गांगेयदेवः ॥१०॥

प्राप्ते प्रयागवटमूलनिवेशवन्द्यौ<sup>(b)</sup>

साङ्गंशतेन गृह्णिणीभिरमुत्र मुक्तिं ।

पुत्रोऽस्य खङ्गदलितारिकरीन्द्रकुम्भ

मुक्ताफलैः स्म ककुभोर्च्चति कर्णदेवः ॥११॥

अग्र्यं धाम श्रेयसो वेदविद्या

वल्लीकंदः स्वःस्रवन्त्याः किरीटं ।

ब्रह्मस्तम्बो येन कर्णावतीति

प्रत्यष्टापि चमातलब्रह्मलोकः ॥१२॥

(b) For the dental S miswritten in the plate this is substituted.

अजनि कुलचुरीणां स्वामिना तेन ह्यणा  
 न्वयजलनिधिलक्ष्म्यां श्रीमदावल्लदेव्यां ।  
 शशभृदुदयशंकाक्षुब्धदुग्धाब्धिबीची  
 सहचरितयशःश्रीः श्रीयशःकर्म्मदेवः ॥१३॥

अत्युत्तुङ्गगिरीन्द्रकन्दरसरस्तीरं कथञ्चिद्गतै  
 रीषन्निर्वृतिमद्भिरागतमिति त्रस्तैर्वदद्भिर्मिथः ।  
 आकर्ण्य प्रतिशब्दमम्बुनि निजं विम्बं मिलद्वैरिवत्  
 संवीक्ष्य क्षणमासितं किमपरं यस्यारिभिस्तं तथा ॥१४॥

तस्यात्मजो भूदतुलप्रतापः श्रीमद्गयाकर्ण इति प्रतीतः ।  
 यस्याह्वेष्वद्भुतवैरिकण्ठक्वेदाक्षूर्णैव धरानुरक्ता ॥१५॥

तितांसुना दिक्षु यशोवितानमुन्नम्रवेशेन गुणान्वितेन ।  
 येनारिकान्ता हृदयेषु गाढमारोपितःसज्जति शोकशंकुः ॥१६॥

असावर्हणदेव्यां श्रीनरसिंहनरेश्वरं ।  
 सवेदनमिवेच्छायां प्रयत्नं सुषुवे सुतं ॥१७॥

उच्चैर्हिरण्यकशिपुप्रतिपादनेन  
 प्रीतिं परां विबुधसंहतिषु प्रकुर्वन् ।  
 सौन्दर्यमारविनिवारितमारगर्भं  
 श्चित्रं तथाप्ययमहो नरसिंहदेवः ॥१८॥

यो ब्रह्मणां पाणिषु पञ्चषाणि  
 दानानि धत्ते पयसां पृषन्ति ।  
 तरव तृष्णामवधूय ते च  
 रत्नाकरेपि प्रथयन्त्यवज्ञां ॥१९॥

महीभर्ता महादानैस्तैस्तुलापुरूषादिभिः ।  
 मतिमानेकरत्यर्थं कृतार्थयति योऽर्थिनः ॥२०॥

कुर्वन् महीं ब्राह्मणसादरिच्छत्रनिवर्हणः ।

साङ्गं परशुरामेण यः स्पर्द्धामधिरोहति ॥२१॥

तस्यानुजो नरपतिर्जयसिंहदेवः

शौट्यैज्ज्वलैरपिनृपैः क्रियमाणसेवः ।

यद्दानलुप्तयशसेव सुरद्रमेण

द्यद्रावि भूतलतलेबलिना प्रलीनं ॥२२॥

(c) राष्ट्रं गूर्जरभूभुजा तु कुबलं मुक्तं तुरुष्केण च

त्यक्तः कुन्तलनायकेन सहसा कन्दर्पकेलिक्रमः ।

(d) श्रुत्वा श्रीजयसिंहदेवनृपतेराज्याभिषेकं नृपाः

सन्त्रासादपरे प्यपास्य जगतीं पारं ययुर्वारिधेः ॥२३॥

कथञ्चिद्यद्यशश्चन्द्रचन्द्रिकाधवलीकृते ।

बलच्चा लक्ष्यते व्योम्नि पतन्ती खगसंहतिः ॥२४॥

रमणगुणनिकेतः केतनं मङ्गलानां

प्रचुरतरयशोभिः शोभितस्तत्तनूजः ।

नृपतिरवनिभानुर्विश्वविश्रान्तभानु

र्जयति विजयसिंहः संहतारातिसिंहः ॥२५॥

दृष्टिर्यस्याः सुधावृष्टिः सन्निधिश्चापि सन्निधिः ।

वाणी चिन्तामणिः श्रीमद्जीयाद्गासलदेव्यसौ ॥२६॥

स च परमभट्टारकमहीशक्राधिराजपरमेश्वरश्रीवामदेवपादा  
ध्यातपरमभट्टारकमहाराजाधिराजपरमेश्वर परममाहेश्वर त्रि  
लिंगाधिपतिनिजभुजोपार्जिर्जताश्वपतिगजपतिनरपतिराजत्रया

(c) Obscure in the original; supplied by conjecture.

(d) An orthographical error is corrected.

(e) Inserted by conjecture.

धिपति श्रीमद्विजयसिंहदेवपतेर्विजयिनः महाराज्ञीश्रीमहाकुमारं  
श्रीअजयसिंहदेवः महामंत्रिशैवाचार्यभट्टारकश्रीमद्राजगुरुविद्या  
दैवमहापुरोहितपण्डितयज्ञधरधर्मप्रधानमहामात्यठकुरश्रीकीकी  
महाक्षपटलिक महाप्रधानार्थलेखिठकुर श्रीदशमूलिकवत्सरज  
महासान्धिवियहिकठकुर पुरुषीत्तम महाप्रतीहारदुष्टसाध्यचर

(f)  
ध्यक्षभाण्डागारिकप्रभक्तवारणाश्वस्वाधीनका इत्येतानन्यांश्च प्र  
दास्यमानग्रामनिवासिजनपदांश्चाह्वययथाहं मानयति बोधयति  
समाज्ञापयति च । यथाविदितमस्तुभवतां । संवत् ६३२ । श्रीमन्नि  
पुंश्यां युगादौ नर्मदायां विधिवत्स्नात्वा श्रीमन्महादेवं समभ्यर्च्य  
मातापित्रोरात्मनश्च पुण्य यशोतिवृद्धये सम्बलपत्तलायांचोरलयो  
ग्रामश्चतुःसीमापथ्यन्तश्चतुराघाटविसर्गः सगोप्रचारः सजलस्थलः  
साम्बमधुकः सलवणाकरः सगर्तोपरः सनिर्गमप्रवेशः सजांगलानूपो  
(g)  
वृक्षारामोद्भिदीद्यातृणादिसहितः

(h)  
अर्द्धपुरुषारिकादायादिसमन्वितः सवनपर्वतः सर्व वाधाविव  
जिर्जतः ग्रामोयं सावर्णगोत्राय भार्गव च्यवन आश्रुवाम् और्व जाम  
दग्न्यति पञ्चप्रबराय छन्दोगशाखिने पण्डितश्रीजनार्दनप्रपौत्राय  
पण्डितश्रीसूहृणपौत्राय पण्डितश्रीहितयुत्राय पण्डितश्रीसीद  
शर्मणे ब्राह्मणायोदकपूर्वकथनं शासनीकृत्यास्मदभ्यनुज्ञया मातृ  
श्रीमद्भासलदेव्या प्रदत्तः ।

अत्रचाभ्यर्थनादातुर्भवति यथा ॥

सर्वानितान् भाविनः पार्थिवेन्द्रान्

भूयोभूयो याचते रामभद्रः ।

सामान्योऽयं धर्मसेतुर्नृपाणां

कालेकाले पालनीयो भवद्भिः ॥२७॥

(f) Correction.

(g) Sic in original.

(h) Here a line is obliterated.



वज्रभिर्वसुधा भुक्ता राजभिः सगरादिभिः ।

यस्य यस्य यदा भूमिस्तस्य तस्य तदा फलं ॥२८॥

सुवर्णमेकं गामिकां भूमेरप्येकमङ्गुलं ।

हरन्नरकमाप्नोति यावदाभूतसंज्ञवं ॥२९॥

तडागानां सहस्रेण अश्वमेधशतेन च ।

गवां कोटिप्रदानेन भूसिद्धता न शुध्यति ॥३०॥

स्वदत्तां परदत्तां वा यो हरेत वसुन्धरां ।

स विष्ठायां कृमिभूर्त्वा पितृभिः सह मज्जति ॥३१॥

फालकृष्टां महीं दद्यात् सवीजां सस्यशालीनीं ।

यावत् स्वयं कृतां लोकस्तावत् स्वर्गे महीयते ॥३२॥

षष्टिवर्षसहस्राणि स्वर्गे वसति भूमिदः

आच्छेत्ता चानुमन्ता च तान्येवनरके वसेत् ॥३३॥

वारिहीनेष्वरण्येषु शुष्ककोटरवासिनः ।

कृष्णसर्पास्तु जायन्ते देवब्रह्मस्वहारिणः ॥३४॥

अन्यायेन हृता भूमिरन्यायेन तु हारिता ।

हरतो हारयतश्च दहत्या सप्तमंकुलं ॥३५॥

अस्मत्कुलक्रमगताः समुदाहरन्ति

अन्यैश्च दानमिदमभ्युपमोदनीयं ।

लक्ष्मीश्रुला सलिलवुद्बुदवन्नराणां

(i)

दानं फलं परमतः परिपालनीयं ॥३६॥

प्रजाहितार्थं स्थितयः प्रणीता  
 धर्मेषु विद्वान् परिपालयेत ।  
 यो लोभमोहाद्वरते दुरात्मा  
 सोधो व्रजेद्गुर्गतिमाशु कष्टां ॥३७॥

धानीह दत्तानि पुरा न रेन्द्रै  
 दानानि धर्मार्थयशस्कराणि ।  
 निर्माल्यवान्तप्रतिमानि तानि  
 को नाम साधुः पुनराददीत ॥३८॥

भूमिं यः प्रतिगृह्णाति यश्च भूमिं प्रयच्छति ।  
 उभौ तौ पुण्यकर्माणौ नियतं स्वर्गगामिनौ ॥३९॥

शंखो भद्रासनं छत्रं धराशवावरवारणाः ।  
 भूमिदानस्य चिह्नानि फलमेतत् पुरन्दर ॥४०॥

अस्मिन् वंशेऽन्यवंशे च यः कश्चिन्नृपतिर्भवेत् ।  
 तस्याहं हस्तलग्नोस्मि शासनं न व्यतिक्रमेत् ॥४१॥

वाताभ्रविभ्रममिदं वसुधाधिपत्य  
 मापातमात्र मधुरो विषयोपभोगः ।  
 प्राणास्तृणायजलविन्दुसमा नराणां  
 धर्मः सखा परमहोपरलोकयाने ॥४२॥

मद्वंशजाः परमहोपतिवंशजा वा  
 (j)  
 पाषाणदण्डमनसो भुविचारिभूपाः ।  
 ये पालयन्त्यमरविप्रभुवः स्वराज्ये  
 तेषां मया विरचितोऽञ्जलिरेषमूर्द्धि ॥४३॥

अभ्युद्घरणत्रय श्रीधर्मसूनुना  
लिखितं वत्सराजेन वैदेश दशमूलिना ॥

पण्डित श्रीकेशव लेखितं ।

(k)

सूत्रधारनामलेमोत्कीर्णम् ॥ शुभं भवतु ।

श्रीहरचन्द्रपण्डितेन श्रीरामगीविन्दपण्डितेन च

तान्त्रशासनादुद्धृतं ॥

ART. V.—*Mr. MIDDLETON on the Meteors of August 10th, 1839.*

*To the Editor of the Asiatic Journal.*

SIR,—I beg to send you an account of several meteors, commonly called *ærolites*, which appeared at Calcutta on the evening of Saturday the 10th instant, and trust that simultaneous observations in other parts of India, may confer upon it scientific value. It is particularly desirable, that if the same phenomena were witnessed by others, they should publish the particulars, since by numerous and varied observations alone can any hope of ultimate acquaintance with those yet mysterious bodies be entertained.

At 11 P. M. the atmosphere being particularly clear, my attention was attracted by a meteor of comparatively small size, and of a reddish colour, like that of the planet Mars, and unaccompanied by any train. It first appeared at a point in or near the prime vertical, and having about 0° of zenith distance, and it disappeared about 30° above the horizon. This was, about thirty minutes after, followed by another of far greater brilliancy and magnitude, which appeared in nearly the same place and followed the same path, projecting behind it a luminous train, stretching from the place of its appearance to that of the disappearance of the body, and vanishing simultaneously with it. The train while it lasted most distinctly marked the path of the *ærolite*, which appeared to be a curve of small curvature; while the height and direction of the body, as indicated by it, was such as to have carried it far beyond my horizon. The velocity of this meteor, like that of the others, was amazing, carrying it through between 50° and 60° in as near as I could guess, about 1½ second. At five minutes past eleven another appeared in the zenith, and swept along, apparently a straight line, vanishing at about the same elevation above

the horizon as the former ones. The magnitude and brilliancy of this body was nearly like that of the planet Venus, as seen at present; its bright train being thickly strewed with sparkling points without progressive motion. Between this time and half-past eleven six others appeared, some to the westward and others to the eastward of the meridian, but much less conspicuous for magnitude and brilliancy than the two last described, and only one of them which appeared about  $20^{\circ}$  to the west having a train.

The general facts observable regarding them were these,—First, they all appeared at points in or near the prime vertical. Secondly, their common vanishing limit was about  $30^{\circ}$  above the horizon. Thirdly, their paths appeared to be parallel and lying from north to south. Fourthly, their velocities appeared to be equal.

I may mention, in conclusion, that no sound was observable either on their appearance, progress, or disappearance.

I am, Sir, yours truly,

CALCUTTA,  
16th August, 1839.

J. MIDDLETON,  
*Hindu College.*

ART. VI.—*Note to the Editors on the Native mode of preparing the perfumed Oils of Jasmine and Bela.* By DR. JACKSON, *Ghazee-pore.*

In my last communication on the subject of Rose-water, I informed you that the natives here were in the habit of extracting the scent from some of the highly smelling flowers, such as the Jasmine, &c., and that I would procure you a sample, and give you some account of the manner in which it is obtained. By the present Steamer I have dispatched two small phials containing some of the Oil procured from the Jasmine and the Bela flower. For this purpose the natives never make use of distillation, but extract the essence by causing it to be absorbed by some of the purest oleaginous seeds, and then expressing these in a common mill, when the oil given out has all the scent of the flower which has been made use of. The plan adopted, is to place on the ground a layer of the flower, about four inches thick and two feet square; over this they put some of the Tel or Sesamum seed wetted, about two inches thick, and two feet square; on this again is placed another layer of flowers, about four inches thick, as in the first instance; the whole is then covered with a sheet, which is held down by weights at the ends and sides. In this state it is allowed to remain from twelve to eighteen hours; after this the flowers are removed, and other layers placed in the

the same way; this also is a third time repeated, if it is desired to have the scent very strong. After the last process, the seeds are taken in their wollen state and placed in a mill; the oil is then expressed, and possesses most fully the scent of the flower.\* The oil is kept in prepared skins called *rubbers*, and is sold at so much per seer. The *Jasmine* and *Bela*† are the two flowers from which the natives in this district chiefly produce their scented oil, the *Chumbul*‡ is another; but I have been unable to procure any of this. The season for manufacture is coming on. The present oils were manufactured a year ago, and do not possess the powerful scent of that which has been recently prepared. Distillation is never made use of for this purpose as it is with the roses, the extreme heat, from its being in the middle of the rains, when the trees come into flower) would most likely carry off all the scent. The *Jasmine*, or *Chymbele* as it is called, is used very largely amongst the women, the hair of the head, and the body, being daily smeared with some of it. The specimen I send you costs at the rate of two Rupees per seer.

July 10, 1839.

ART. VII.—*Report on the manufacture of Tea, and on the extent and produce of the Tea Plantations in Assam.* By C. A. BRUCE, Superintendent of Tea Culture.

(Presented by the Tea Committee, August 16th, 1839.)

I submit this report on our Assam Tea with much diffidence, on account of the troubles in which this frontier has been unfortunately involved. I have had something more than Tea to occupy my mind, and have consequently not been able to commit all my thoughts to paper at one time; this I hope will account for the rambling manner in which I have treated the subject. Such as my report is, I trust will be found acceptable, as throwing some new light on a subject of no little importance to British India, and the British public generally. In drawing out this report, it gives me much pleasure to say, that our information and knowledge respecting Tea and Tea tracts are far more extensive than when I last wrote on this subject;—the number of tracts now known amounting to 120, some of them very extensive, both on the hills and in the plains. A reference to the accompanying map will

\* A closely similar plan is followed in Europe in the preparation of the *Jasmine*, and several other very fugitive perfumes. The fixed oil employed is usually that of the *Ten* or *Moringa* nut, with which cotton is soaked. The cotton and flowers are then placed in alternate layers, as in the Indian process.—EDS.

† *Jasminum zambac.*

‡ *Jasminum grandiflorum.*

shew that a sufficiency of seeds and seedlings might be collected from these tracts in the course of a few years to plant off the whole of Assam and I feel convinced, from my different journeys over the country, that but a very small portion of the localities are as yet known.

Last year in going over one of the hills behind *Jaipore*, about 300 feet high, I came upon a Tea tract, which must have been two or three miles in length, in fact I did not see the end of it; the trees were in most parts as thick as they could grow, and the Tea seed (smaller than what I had seen before) fine and fresh, literally covered the ground; this was in the middle of November, and the trees had abundance of fruit and flower on them. One of the largest trees I found to be two cubits in circumference, and full forty cubits in height. At the foot of the hill I found another tract, and had time permitted me to explore those parts, there is no doubt but I should have found many of the Naga Hills covered with Tea. I have since been informed of two more tracts near this. In going along the foot of the Hills to the westward, I was informed that there was Tea at *Teweack*, or near it: this information came too late, for I had passed it just a little to the east of the *Dacca* river, at a place called *Cheriedoo*, a small hill projecting out more than the rest on the plain to the northward, with the ruins of a brick temple on it; here I found Tea, and no doubt if there had been time to examine, I should have found many more tracts. I crossed the *Dacca* river at the old ford of *Ghergong*, and walked towards the Hills, and almost immediately came upon Tea. The place is called *Hauthoweah*. Here I remained a couple of days, going about the country, and came upon no fewer than thirteen tracts. A *Dewaniah* who assisted me to hunt out these tracts, and who was well acquainted with the leaf, as he had been in the habit of drinking tea during his residence with the *Singphoes* informed me that he had seen a large tract of Tea plants on the *Naga* mountains, a day's journey west of *Chiridoo*. I have no reason to doubt the veracity of this man; he offered to point out the place to me or any of my men, if they would accompany him; but as the country belonged to *Raja Poorunda Sing*, I could not examine it. I feel convinced the whole of the country is full of Tea.

Again, in going further to the south-west, just before I came to *Gabren* hill, I found the small hills adjoining it, to the eastward, covered with Tea plants. The flowers of the Tea on these hills are of a pleasant delicate fragrance, unlike the smell of our other Tea-plants; but the leaves and fruit appear the same. This would be a delightful place for the manufacture of Tea, as the country is well populated, has abundance of grain, and labour is cheap. There is a small stream called the

*Jhangy* river, at a distance of two hours walk ; it is navigable, I am informed, all the year round for small canoes, which could carry down the Tea ; and the place is only one and a half day's journey from *Jorehaut*, the capital of Upper Assam. South-west of *Gabrew Purbut* (about two days journey) there is a village at the foot of the hill, inhabited by a race called *Norahs* ; they are *Shans*, I believe, as they came from the eastward, where Tea abounds. I had long conversations with them, and the oldest man of the village, who was also the head of it, informed me, that when his father was a young man, he had emigrated with many others, and settled at *Tipum*, opposite *Jaipore*, on account of the constant disturbances at *Munkum* ; that they brought the Tea plant with them and planted it on the *Tipum* hill, where it exists to this day ; and that when he was about sixteen years of age, he was obliged to leave *Tipum*, on account of the wars and disturbances at that place, and take shelter at the village where he now resides. This man said he was now eighty years of age, and that his father died a very old man. How true this story is, I cannot say, and do not see what good it would do the old man to fabricate it. This was the only man I met with in my journeys about the country who could give any account of the Tea plant, with the exception of an *Ahum*, who declared to me that it was *Sooka*, or the first *Kacharry Rajah* of Assam, who brought the Tea plant from *Munkum* ; he said it was written in his *Putty*, or history. The *Ahum-Putty* I have never been able to get hold of ; but this I know, that the information about the Tea plant pointed out by the old *Norah* man, as being on the *Tipum* hill, is true ; for I have cleared the tract where it grew thickest, about 300 yards by 300, running from the foot of the hill to the top. The old man told me his father cut the plant down every third year, that he might get the young leaves.

To the west of *Gabrew* I did not find any Tea ; but to the westward of the *Dhunseeree* river I found a species, though not the same as that we use. If the people on the west side of the *Dhunseeree* river were acquainted with the true leaf, I think Tea would be found. I planted it all along the route I went, which may lead to its eventual discovery ; but people should be sent to search for the plant who are really acquainted with it. I think a vast quantity of Tea would be brought to light if this were done. A reference to the map will shew how our tracts are distributed all over the country. How much Tea they would all produce if fully worked, I will not pretend to say ; but in the course of this subject, I will mention such matters relative to the tracts and the plants on them, that every one may make his own calculation. Until lately we had only two Chinese Black-Tea makers. These men have

twelve native assistants; each Chinaman with six assistants can only superintend one locality, and the Tea leaves from the various other tracts, widely separated, must be brought to these two places for manufacture. The consequence is, that an additional number of labourers must always be employed to bring the leaves from so great a distance. The leaves suffer when brought in large quantities from a distance, as they soon begin to ferment, and the labour of only preparing them so far in process that they may not spoil by the morning, is excessive. The men have often to work until very late to accomplish this. When labour falls so very heavy, and on so very few, it cannot be expected that it can be equally well executed, as if more had been employed. The leaves last gathered are also much larger than they ought to be, for want of being collected and manufactured earlier; consequently the Tea is inferior in quality. I mention this, to shew the inconvenience and expense of having so few Tea makers.

The samples of Black-Tea made by the twelve assistants having been approved of by the Tea Committee in Calcutta, it was my intention to have distributed the men amongst the different tracts, but the late disturbances on our frontier have prevented this arrangement; and I have been obliged to employ ten men in Assam (two others having gone to Calcutta in charge of Tea) at the tract called *Kahung*—which is becoming a very extensive and important Tea locality—so many others being near it, which can all be thrown into one. When we have a sufficient number of manufacturers, so that we can afford to have some at each tract, or garden, as they have in China then we may hope to compete with that nation in cheapness of produce; nay, we might, and ought, to undersell them; for if each tract or garden, had its own Tea maker and labourers, the collecting of the leaves would not perhaps occupy more than twelve days in each crop; after which the men might be discharged, or profitably employed on the Tea grounds. But now, for the want of a sufficient number of labourers and Tea makers, there is a constant gathering of leaves throughout the month; and as I said before, those gathered last can only make inferior Teas; besides the great loss by the leaves getting too old, and hereby unfit for being made into any Tea; and all this entirely for want of hands to pluck the leaves. It is true we have gained twelve Black-Tea makers this year, in addition to the last; and twelve more native assistants have been appointed, who may be available next year to manufacture Tea independently, as they were learning the art all last year. We have also had an addition to our establishment of two Chinese Green-Tea manufacturers, and twelve native assistants have been placed under them as learners; but what are these compared



o the vast quantity of Tea, or the ground the Tea plants cover, or might be made to cover in three years, but a drop of water in the ocean? We must go on at a much faster pace in the two great essentials—Tea manufacturers, and labourers,—in order to have them available at each garden, when the leaves come into season.

If I were asked, when will this Tea experiment be in a sufficient state of forwardness, so as to be transferable to speculators? I would answer, when a sufficient number of native Tea manufacturers have been taught to prepare both the Black and the Green sort; and that under one hundred available Tea manufacturers, it would not be worth while for private speculators to take up the scheme on a large scale; on a small one it would be a different thing. In the course of two or three years we ought to have that number. Labourers must be introduced, in the first instance, to give a tone to the Assam Opium-eaters; but the great fear is, that these latter would corrupt the newcomers. If the cultivation of Tea were encouraged, and the Poppy put stop to in Assam, the Assamese would make a splendid set of Tea manufacturers and Tea cultivators.

In giving a statement of the number of Tea tracts, when I say that *Tingri*, or any other tract is so long and so broad, it must be understood, that space to that extent only has been cleared, being found to contain all the plants which grew thickly together; as it was not thought worth while at the commencement of these experiments to go to the expense of clearing any more of the forest for the sake of a few straggling plants. If these straggling plants were followed up they would in all probability be found gradually becoming more numerous, until you found yourself in another tract as thick and as numerous as the one you left; and if the straggling plants of this new tract were traced, they would by degrees disappear until not one was to be seen. But if you only proceeded on through the angles, it is ten to one that you would come upon a solitary Tea plant, a little further on you would meet with another; until you gradually found yourself in another new tract, as full of plants as the one you had left, growing absolutely so thick as to impede each others growth. Thus I am convinced one might go on for miles from one tract into another. All my Tea tracts about *Tingri* and *Kahung* are formed in this manner, with only a patch of jungle between them, which is not greater than what could be conveniently filled up by thinning those parts that have too many plants. At *Kahung* I have lately knocked three tracts into one, and I shall most probably have to continue doing the same until one tract shall be made of what now consists of a dozen. I have never seen the end of *Juggundoo's* Tea tract,

nor yet *Kujudoo's* or *Ningren's*. I feel confident that the two former run over the hills and join, or nearly join, some of our tracts in the *Muttuck* country. Nor have I seen the end of *Kahung* tract, all about that part of the country being one vast succession of Tea from *Rungagurra* on the *Debrew*, to *Jaipore* on the *Buri Dehing*. It may be seen on inspecting the map how thickly the Tea localities are scattered—those that are known; and they are but a small portion compared to those that are unknown. There is the *Namsong* tract on the *Naga* hills, the largest that has yet been seen, and the extent of which is not ascertained. The tracts on the *Gubind* hills are unknown; and this is likewise the case with *Haut Holah* and *Cheridoo*; so that there is a large field for improvement throughout, to say nothing of the *Singho* tracts, which may be found to be one unbounded link to *Hookum*; and who knows but it crosses the *Irrawaddy* to China? Many Tea tracts I know have been cut down in ignorance by the natives, to make room for the rice field, for firewood, and fences, but many of these tracts have sprung up again, more vigorous than before. Witness that at *Ningrew*, where the natives say that every thing was cut down, and the land planted with rice, except on the high ground.

With respect to the Tea plant being most productive on high or low ground, I cannot well say, as all our tracts are on the plains; but from what little I have seen of the hill tracts, I should suppose they were not more productive. In China the hill tracts produce the *best* Teas and they may do the same here. Almost all my tracts on the plains are nearly on the same level, I should think. *Nudwa* perhaps is a little higher than *Tingri*, and *Tingri* a little higher than *Kahung*, but I believe they are equally productive; although if I leaned towards any side, with my limited experience, I should say that the low land such as at *Kahung*, which is not so low as ever to be inundated by the strongest rise in the river, is the best. The plants seem to love and court moisture, not from stagnant pools, but running streams. The *Kahun* tracts have the water in and around them; they are all in heavy tree jungles, which makes it very expensive to clear them. An extent of 300 by 300 will cost from 200 to 300 rupees; i. e. according to the manner in which the miserable Opium-smoking Assamese work. This alone ought to point out the utility of introducing a superior race of labourers, who would not only work themselves, but encourage their women and children to do the same;—in plucking and sorting leave they might be profitably turned to account for both parties. This I have not been able to instil into the heads of the Assamese who will not permit their women to come into the Tea gardens. Indeed unless more labourers can be furnished, a larger amount

f Tea must not be looked for at present. Last season it was with the greatest difficulty that I could get a sufficient number of hands to gather the leaves. The plucking of the leaves may appear to many very easy and light employment, but there are not a few of our coolies who would much rather be employed on any other job ; he standing in one position so many hours occasions swellings in the legs, as our plants are not like those of China, only three feet high, but double that size, so that one must stand upright to gather the leaves. The Chinese pluck theirs squatting down. We lie under a great disadvantage in not having regular men to pluck the leaves ; those that have been taught to do so, can pluck twice as many as those that have not, and we can seldom get hold of the same men two seasons running. I am of opinion that our trees will become of a smaller and more convenient size after a few years cultivation ; because, trimming of the plants, and taking all the young leaves almost as soon as they appear, month after month and year after year, and the plants being deprived of the rich soil they had been living on from time unknown, must soon tell upon them. Transplanting also helps to stunt and shorten the growth of these plants. The Chinese declared to me, that the China plants now at *Deenjoy* would never have attained to half the perfection they now have, under ten years in their own country.

I may here observe, that the sun has a material effect on the leaves ; for as soon as the trees that shade the plants are removed, the leaf, from a fine deep green, begins to turn into a yellowish colour, which it retains for some months, and then again gradually changes to a healthy green, but now becomes thicker, and the plant throws out far more numerous leaves than when in the shade. The more the leaves are plucked, the greater number of them are produced ; if the leaves of the first crop were not gathered, you might look in vain for the leaves of the second crop. The Tea made from the leaves in the shade is not near so good as that from leaves exposed to the sun ; the leaves of plants in the sun are much earlier in season than of those in the shade ; the leaves from the shady tract give out a more watery liquid when rolled, and those from the sunny a more glutinous substance. When the leaves of either are rolled on a sunny day, they emit less of this liquid than on a rainy day. This juice decreases as the season advances. The plants in the sun have flowers and fruit much earlier than those in the shade, and are far more numerous ; they have flowers and seeds in July, and fruit in November. Numerous plants are to be seen that by some accident, either cold or rain, have lost all their flowers, and commence throwing out fresh

flower-buds more abundantly than ever. Thus it is not unfrequent to see some plants in flower so late as March (some of the China plants were in flower in April) bearing at once the old and the new seeds, flower-buds, and full-blown flowers—all at one and the same time. The rain also greatly affects the leaves; for some sorts of Tea cannot be made on a rainy day; for instance the *Pouchong* and *Mingehen*. The leaves for these ought to be collected about 10 A. M. on a sunny morning, when the dew has evaporated. The *Pouchong* can only be manufactured from the leaves of the first crop; but the *Mingehen*, although it requires the same care in making as the other, can yet be made from any crop, provided it is made on a sunny morning. The Chinese dislike gathering leaves on a rainy day for any description of Tea, and never will do so, unless necessity requires it. Some pretend to distinguish the Teas made on a rainy and on a sunny day, much in the same manner as they can distinguish the shady from the sunny Teas—by their inferiority. If the large leaves for the Black-Tea were collected on a rainy day, about seven seers, or fourteen pounds, of green leaves would be required to make one seer, or two pounds, of Tea; but if collected on a sunny day, about four seers, or eight pounds of green leaves, would make one seer, or two pounds, of Tea;—so the Chinamen say. I tried the experiment, and found it to be correct. Our season for Tea making generally commences about the middle of March; the second crop in the middle of May; the third crop about the first of July; but the time varies according to the rains setting in sooner or later. As the manufacture of the *Sychee* and the *Mingehen* Black Teas has never been described, I will here attempt to give some idea how it is performed.

*Sychee* Black-Tea. The leaves of this are the *Souchong* and *Pouchong*. After they have been gathered and dried in the sun in the usual way (see my former account of Black-Tea) they are beaten and put away four different times; they are then put into baskets, pressed down, and a cloth put over them. When the leaves become of a brownish colour by the heat, they throw out and have a peculiar smell and are then ready for the pan, the bottom of which is made red hot. This pan is fixed in masonry breast high, and in a sloping position forming an angle of forty degrees. Thus the pan being placed on an inclined plane, the leaves, when tossed about in it cannot escape behind, or on the sides, as it is built high up, but fall out near the edge close to the manufacturer, and always into his hands, so as to be swept out easily. When the bottom of this pan has been made red hot by a wood fire the operator puts a cloth to his mouth to prevent inhaling any of the hot vapour. A man on the left of him stands ready with a basket

of prepared leaves; one or two men stand on his right with dollahs, or shallow baskets, to receive the leaves from the pan, and another keeps lifting the hot leaves thrown out of the pan into the dollah, that they may quickly cool. At a given signal from the Chinaman, the person with the basket of prepared leaves seizes a handful and dashes it as quick as thought, into the red hot pan. The Chinaman tosses and turns the crackling leaves in the pan for half a minute, then draws them all out by seizing a few leaves in each hand, using them by way of a brush, not one being left behind. They are all caught by the man with the dollah or basket, who with his disengaged hand continues lifting the leaves, and letting them fall again, that they may quickly cool. Should a leaf be left behind in the pan by any accident, the cloth that is held ready in the mouth is applied to brush it out; but all this is done as quick as lightning. The man that holds the basket of leaves watches the process sharply; for no sooner is the last leaf out of the pan, than he dashes in another handful, so that to an observer at a little distance, it appears as if one man was dashing the leaves in, and the other as fast dashing them out again—so quickly and dexterously is this managed. As soon as one basket has received about four handfuls of the hot leaves from the pan, it is removed, and another basket placed to receive the leaves; and so on, until all is finished. A roaring wood fire is kept up under the pan to keep the bottom red hot, as the succession of fresh leaves tends greatly to cool the pan, which ought always to be scrubbed and washed out after the process is over. In China these pans are made of cast iron, and if great care is not taken they will crack in the cooling; to prevent which, one man keeps tapping the inside of the edge of the pan briskly with a wet broom, used in the cleaning of the vessel, while another pours cold water in gently; thus it cools in a few seconds, and is ready for another batch of Tea. The leaves are rolled and tatched the same as the other Teas, and put into the drying basket for about ten minutes. When a little dry, people are employed to work and press the leaves in the hands in small quantities, of about one and a half to two rupees weight at a time, for about half a minute; they are then put into small square pieces of paper and rolled up; after this they are put into the drying basket, and permitted to dry slowly over a gentle fire for some hours, until the whole is thoroughly dry. This Tea is not sold in the China market, it is used principally as offerings to the priests, or kept for high days and holidays. It is said to be a very fine Tea, and there is not one man in a hundred who can make it properly. The *Pouchong* Tea is made in the same way as the *Sychee*, with this exception, that it is not formed into balls.

*Mingehew* Black-Tea. The leaves (*Pouchong*) are plucked and dried in the sun, and are then beaten and dried in the shade for half an hour; this is done three successive times, and the leaves are very much shaken by a circular motion given to them in a sieve, so as to keep them rolling and tumbling about in the centre of it. This treatment continues until they are very soft; they are then allowed to remain for a short time; the contents of the first sieve are then placed in the centre of a close worked bamboo basket with a narrow edge, and the leaves are divided into four equal parts. The contents of the second sieve are placed in another bamboo basket like the former, and this basket is placed on the top of the first, and so on, piling one basket upon another until all is finished;—there may be about two pound of leaves in each basket. The red hot pan is used the same as in *Sychee*, only now the men cast in one division of the leaves into the basket, and this is tumbled and tossed about in the red hot pan, like a plaything, for about thirty seconds, and then swept out; another division is cast in, and so on, until all the prepared baskets have been emptied. The contents of each basket are still kept separate, by placing the leaves when they come out of the pan in separate baskets. The whole is a brisk and a lively scene, and quite methodical, every one knowing his station, and the part he has to perform. The baskets are then arranged on shelves to air; the contents are afterwards tatched the same as our Black-Teas, and fired in the drying baskets, but with this difference, that each division is placed on paper and dried. When it is half dry (the same as our Teas) it is put away for the night, and the next morning it is picked, and put into the drying baskets over gentle deadened fires, and gradually dried there; it is then packed hot. This Tea is a difficult sort to make.

*Shung Paho* Black-Tea. Pluck the young (*Paho*) leaf that has not yet blown or expanded, and has the down on it; and the next one that has blown with a part of the stalk; put it into the sun for half an hour, then into the shade; tatch over a gentle fire, and in tatching roll the leaves occasionally in the pan, and spread them all round the sides of the same; again roll them until they begin to have a withered and soft appearance; then spread them on large sieves, and put them in the shade to air for the night; next morning pick, and then fire them well. Some Tea makers do not keep them all night, but manufacture and pack the Tea the same day. This Tea is valued in China, as it is very scarce; but the Chinamen acknowledge that it is not a good sort. They prefer the Teas, the leaves of which have come to maturity.

The China Black-Tea plants which were brought into *Muttuck* in 1837, amounted in all to 1609—healthy and sickly. A few of the lat-

er died, but the remainder are healthy, and flourish as well, as if they had been reared in China. The leaves of these plants were plucked in the beginning of March, and weighed sixteen seers, or thirty-two pounds. Many of the plants were then in flower, and had small seeds. They are about three feet high, and were loaded with fruit last year, but the greater part of it decayed when it had come to maturity, as was the case with the Assam Tea-seeds, and almost every seed of these wilds, in the past year. The seeds should, I think, be plucked from the plant when thought ripe, and not be permitted to drop or fall to the ground. I collected about twenty-four pounds of the China seeds, and sowed some on the little hill of *Tipum* in my Tea garden, and some in the Nursery-ground at *Jaipore*; above three thousand of which have come up, are looking beautiful, and doing very well. I have since found out that all the China seedlings on *Tipum* hill have been destroyed by some insect.

The Assam and China seedlings are near each other; the latter have much darker appearance. I have made but few nurseries, or raised plants from seed, as abundance of young plants can be procured, of any age or size, from our Tea tracts. There may be about 6,000 young seedlings at *Chubwa*; at *Deenjoy* about 2,000; at *Tingri* a few; and some at *Paundooah*. In June and July, 1837, 17,000 young plants were brought from *Muttuck*, and planted at a place called *Soongroong Patar*, amongst the thick tree jungles of *Sadiya*.

In March of the same year six or eight thousand were brought from *Muttuck*, and planted in different thick jungles at *Sadiya*; many of these died in consequence of the buffaloes constantly breaking in amongst them; the rest are doing well, but I am afraid will be killed from the above cause; and now that I have removed to *Jaipore*, they are too far off for my personal superintendence.

In 1838, 52,000 young Tea plants were brought from the *Nemong Naga* hill tracts, about ten miles from *Jaipore*; a great portion of these have been lately sent to Calcutta, to be forwarded to Madras; should they thrive there, it is my opinion that they will never attain any height, at least not like ours, but be dwarfish like the China plants. *Deenjoy*, *Chubwa*, *Tingri*, and *Geela-Jhan* tracts have been filled up or enlarged with plants from the jungle tracts. In transplanting from one sunny tract to another, when done in the rains, very few, if any, die; if the plants be removed from a deep shade to a sunny tract, the risk is greater, but still, if there is plenty of rain, few only will die. If from a deep shade to a piece of ground not a Tea tract, and exposed to the sun—for instance from the *Naga* hills to *Jaipore*—if there be plenty of rain, and the soil congenial, as it is at this place,

few will die ; if shaded by a few trees, less will perish ; if taken from shade, and planted in shade and the soil uncongenial, but there is plenty of rain, the greater portion will live ;—witness *Toongroong Patar* at *Sadiya*. If the plants are brought from deep shade, and planted in the sun in uncongenial soil, let them have ever so much rain, not one in fifty will be alive the third year ;—witness 30,000 brought to *Sadiya*. I believe the Tea plant to be so hardy that it would almost live in any soil, provided it were planted in deep shade when taken to it. There should be plenty of water near the roots, but the plant should always be above inundation. As soon as it has taken root, which it will soon do, the shade may be removed, and there will be no fear of the plant dying.

The advantage of getting plants from the jungle tracts is, that you can get them of any age or size ; nothing more is necessary than to send a few coolies early in March, just as the rains commence, and have the plants of the size required removed to your own garden ; and if they are of a moderate size, you may gather a small crop of Tea from them the next year. As these plants are very slender, it would be best to plant four or five close together to form a fine bush. If the plants are raised from seed, you may expect a small crop of Tea the third year, but they do not come to maturity under six years. It is said they live to the age of forty or fifty years. The Chinese way of digging a hole, and putting in a handful or two of seed, does not succeed so well in this country, as putting two or three seeds on small ridges of earth and covering them over, which I have found to answer better.

In clearing a new Tea tract, if the jungle trees are very large and numerous, it would be as well to make a clean sweep of the whole, by cutting them and the Tea plants all down together ; for it would be impossible to get rid of so much wood without the help of fire. The Tea plants, if allowed to remain, would be of little use after they had been crushed and broken by the fall of the large trees, and dried up by the fire ; but admitting that they could escape all this, the leaves of trees from twelve to twenty feet high could not be reached, and if they could, they would be almost useless for Tea manufacture, as it is the young leaves, from young trees, that produce the best Teas. But if all were cut down and set fire to, we should have a fine clear tract at once, at the least expense, and might expect to have a pretty good crop of Tea one year after the cutting, or, at furthest, the second year ; for it is astonishing with what vigour the plant shoots up after the fire has been applied. And we gain by this process ; for, from every old stock or stump cut down, ten to twelve more vigorous shoots



bring up, so that in the place of a single plant you have now a fine tea bush. I think from what I have seen of these plants, that if cut down every third year, they would yield far superior Teas; either am I singular in this opinion; the Green-Tea Chinamen having told me that they cut down their plants every ninth year, which may be reckoned equivalent to our third year, taking into consideration the size of our trees and the richness of our soil. Our trees, or plants, are certainly more than four or five times the size of theirs, and must consequently yield so many times more produce; theirs is the dwarf, ours the giant Tea. The size of the leaf matters nothing, in my opinion, provided it is young and tender; even their diminutive leaf, if one day too old, is good for nothing.

As the Green-Tea Chinamen have just commenced operations, I will try to give some account of this most interesting process. All leaves up to the size of the *Souchong* are taken for the Green-Tea. About three pounds of the fresh leaves, immediately they are brought in, are put into a hot pan (sometimes they are kept over night when abundance have been brought in, and we have not been able to work all day); they are then rolled and tossed about in the pan until they become too hot for the hand. Two slips of bamboo, each about a foot long, split at one end so as to form six prongs, are now used to tumble and toss the leaves about, by running the sticks down the sides of the pan, and turning the leaves up first with the right hand, then with the left, and this as fast as possible; which keeps the leaves tumbling about in the pan without being burnt: this lasts about three minutes; the leaves will then admit of being rolled and pressed without breaking. They are now taken from the pan and rolled in dollahs, much the same as the Black-Tea, for about three minutes, in which process a great quantity of the juice is extracted, if they be fresh leaves; but if they have been kept over night, very little juice can be pressed from them in the morning, on account of its having evaporated. The Chinamen say, this does not matter, as it makes no difference in the Tea. The leaves are then pressed hard between both hands, and turned round and pressed again and again, until they have taken the shape of a small pyramid. They are now placed in bamboo-baskets or dollahs with a narrow edge, and the dollahs on bamboo framework (see fig. 2 of my former account of Black-Tea) where they are exposed to the sun for two or three minutes, after which these pyramids of tea are gently opened and thinly spread on the dollahs to dry. When the Tea has become a little dry, (which will be the case in from five to ten minutes if the sun be hot) it is again rolled, and then placed in the sun as before; this is done three successive times. But should the

weather be rainy, and there is no hope of its clearing, all this drying is done over the fire in a small drying basket, the same as with Black-Tea. The Green-Tea makers have as great an aversion to drying their Tea over the fire, as the Black-Tea makers. The third time has been rolled and dried, there is very little moisture left in the Tea; it is now put into a hot pan, and gently turned over and over and opened out occasionally, until all has become well heated; it is then tossed out into a basket, and while hot put into a very strong bag previously prepared for it, about four feet long, and four spans in circumference. Into this bag the Tea is pressed with great force with the hands and feet; from fourteen to twenty pounds being put in at one time, and forced into as small a compass as possible. With his left hand the man firmly closes the mouth of the bag immediately above the leaves, while with the right hand he pommels and beats the bag every now and then giving it a turn; thus he beats and turns and works at it, tightening it by every turn with one hand, and holding on with the other, until he has squeezed the leaves into as small a compass as possible at the end of the bag. He now makes it fast by turns of the cloth where he held on, so that it may not open; and then draws the cloth of the bag over the ball of leaves, thus doubling the bag, the mouth which is twisted and made fast. The man then stands up, holding on by a post or some such thing, and works this ball of leaves under his feet, at the same time alternately pressing with all his weight, first with one foot and then the other, turning the ball over and over, and occasionally opening the bag to tighten it more firmly. When he has made it almost as hard as a stone, he secures the mouth well and puts the bag away for that day. Next morning it is opened out and the leaves gently separated and placed on dollahs, then fired and dried until they are crisp, the same as the Black-Tea, after which they are packed in boxes or baskets. In China the baskets are made of double bamboo, with leaves between. The Tea may then remain on the spot for two or three months or be sent to any other place to receive the final process. This first part of the Green-Tea process is so simple, that the natives of this country readily pick it up in a month or two.

The second process now commences by opening the boxes or baskets and exposing the Tea on large shallow bamboo baskets or dollahs (see former account, fig. 1) until it has become soft enough to roll; it is then put into cast iron pans, set in brick fire-places, the same as described in making the *Sychee* Black-Tea. The pan is made very hot by wood-fire, and seven pounds of the leaves are thrown into it and rolled against the pan, with the right hand until tired, and then with the left, so as not to make the process fatiguing. The pan being placed

on an inclined plane the leaves always come tumbling back towards and near the operator, as he pushes them up from him, moving his hand backwards and forwards and pressing on the leaves with some force with the palms, keeping the ends of the fingers up, to prevent their coming in contact with the hot pan. After one hour's good rubbing the leaves are taken out and thrown into a large coarse bamboo-sieve, from this into a finer one, and again a still finer one, until three sorts of Tea have been separated. The first, or largest sort, is put into the funnel of the winnowing machine, which has three divisions of small apertures below, to let the Tea out. A man turns the wheel with his right hand, and with the left regulates the quantity of Tea that shall fall through the wooden funnel above, by a wooden slide at the bottom of it. The Tea being thrown from the sieves into the funnel, the man turns the crank of the wheel, and moves the slide of the funnel gradually, so as to let the Tea fall through gently, and in small quantities. The blast from the fan blows the smaller particles of Tea to the end of the machine, where it is intercepted by a circular moveable board placed there. The dust and smaller particles are blown against this board, and fall out at an opening at the bottom into a basket placed there to receive it. The next highest Tea is blown nearly to the end of the machine, and falls down through a trough on the side into a basket; this Tea is called *Young Hyson*. The next being a little heavier, is not blown quite so far; it falls through the same trough, which has a division in the middle; this of course is nearer the centre of the machine. A basket is placed beneath to receive the Tea, which is called *Hyson*. The next, which is still heavier, falls very near the end of the fan, this is called *Gunpowder* Tea; it is in small balls. The heaviest Tea falls still closer to the fan, and is called *Big Gunpowder*; it is twice or three times the size of *Gunpowder* Tea, and composed of several young leaves that adhere firmly together. This sort is afterwards put into a box and cut with a sharp iron instrument, then sifted and put among the *Gunpowder*, which it now resembles. The different sorts of Tea are now put into shallow bamboo baskets, and men, women, and children are employed to pick out the sticks and bad leaves; this is a most tedious process, and the greatest care is taken not to leave the slightest particle of anything but good Tea. But to assist and quicken this tiresome process beautiful bamboo sieves, very little inferior to our wire ones, and of various sizes, are employed. The different Teas are thrown into sieves of different sizes, from large *Gunpowder* to *Dust* Tea; they are shaken and tossed, and thrown from one person to another in

quick succession, making the scene very animating; in this way a great portion of the stalks are got rid of. After the Tea has been well sifted and picked, it is again put into the hot pans and rubbed and rolled as before, for about one hour; it is then put into shallow bamboo baskets, and once more examined, to separate the different Teas that may still remain intermixed, and again put into the hot pan. Now a mixture of sulphate of lime and indigo, very finely pulverized and sifted through fine muslin, in the proportion of three of the former to one of the latter, is added; to a pan of Tea containing about seven pounds, about half a tea-spoonful of this mixture is put and rubbed and rolled along with the Tea in the pan for about one hour, as before described. The Tea is then taken hot from the pan and packed firmly in boxes, both hands and feet being used to press it down. The above mixture is not put to the Tea to improve its flavour, but merely to give it a uniform color and appearance, as without it some of the Tea would be light and some dark. The indigo gives it the colour, and the sulphate of lime fixes it. The Chinese call the former *Youngtin*, the latter *Acco*. Large Gunpowder Tea they call *Tychen*; little Gunpowder *Cheocheu*; Hyson, *Chingcha*; Yonng Hyson, *Uchin*; Skin-Tea, or old leaves in small bits, *Poocha*; the fine Dust, or Powder-Tea, *Chamoot*.

The leaves of the Green-Tea are not plucked the same as the Black although the tree or plant is one and the same, which has been proved beyond a shadow of doubt; for I am now plucking leaves for both Green and Black from the same tract and from the same plants; the difference lies in the manufacture, and nothing else. The Green Tea gatherers are accommodated with a small basket, each having a strap passed round the neck so as to let the basket hang on the breast. With one hand the man holds the branch, and with the other plucks the leaf, one at a time, taking as high as the *Souchon* leaf; a little bit of the lower end of the leaf is left for the young leaf to shoot up close to it; not a bit of stalk must be gathered. This is a very slow and tedious way of gathering. The Black-Tea maker plucks the leaves with great rapidity with both hands, using only the forefinger and thumb, and collects them in the hollow of the hand; when his hand is full he throws the leaves into a basket under the shade of the tree; and so quickly does he ply his hands that the eye of a learner cannot follow them, nor see the proper kind of leaf to be plucked; that he sees, is the Chinaman's hands going right and left, his hands fast filling, and the leaves disappearing. Our coolies, like the Green-Tea Chinamen, hold the branch with one hand, and deliberately pluck off the

af required, then the next, and so on, by which process much time is lost, and a greater number of hands are wanted. Not having a regular set of pluckers is a very great drawback to us; for the men whom we teach this year we see nothing of the next; thus every year we have to instruct fresh men. This difficulty will be removed when we get regular people attached to the Tea plantations; or when the natives of these parts become more fixed and settled in their habitations, and do not move off by whole villages from one place to another, as they have of late years been doing; and when the aversion they have throughout Assam to taking service for payment, has been overcome. They seem to hold this as mean and servile; preferring to cultivate a small patch of ground which barely yields a subsistence. I can perceive, however, that there is a gradual change taking place in the minds of the labouring class of people, or coolies; for occasionally some good able-bodied men come forward for employment. The generality of those that have hitherto offered themselves, has been from the very poorest and the most worthless in the country. In the cold season, when the men have nothing to sow or reap, two or three hundred can be collected; but as soon as the rains set in, all but those that have not bonds, or are not involved in debt, go off to their cultivations, at the very time when our Tea operations commence. As long as things continue in this state, the price of Tea will be high; but if this drawback were removed, there is nothing to prevent our underselling the Chinese, except the experience of a few more years.

But let us return to our Teas, and take a comparative view of the qualities of the Black and Green-Teas, which may nearly be as follows: *Paho* Black-Tea leaf would make Green-Tea, some Gunpowder, and some Young Hyson. *Pouchong*, although classed as a second Black-Tea, on account of the price it fetches in the market, is a third-rate leaf, for it is rather larger than the *Souchong*. Some of it would make Young Hyson, and some Skin-Tea. *Souchong* would make Hyson and Young Hyson. *Toychong* would make Skin-Tea.—I will here mention the different kinds of Black-Teas, to make the matter more clear to those who take an interest in the subject. *Thowung-Paho* (the *Sung fa* is the same leaf as this) is the downy little leaf not expanded, and the one next to it that has just unfolded a little. This Tea when made appears full of small white leaves, which are the little downy leaves just mentioned. *Twazee-Paho* is from the second crop, and nearly the same kind of Tea, only a little older; the leaf next the small downy one (being a little more expanded) and the small leaf below this, are taken, making three in all; this has also numerous white leaves, but not so many as the former.

*Souchong* is the next largest leaf; this is well grown, but embraces all the leaves above it. When the upper leaves have grown out of season for *Thowung-Paho* and *Twazee-Paho*, they are all plucked for the *Souchong* from the third and fourth of the upper leaves. From *Souchong* leaves, the *Minchong* and *Sychee* Teas are made in the first crop, and no other. *Pouchong* is the next largest leaf; it is a little older and larger than the *Souchong*. From this leaf the *Sychee* and *Minchong* Teas can be made in the first crop only. The *Pouchong* is never made in the second crop, on account of its not having a good flavour: many of the *Souchong* leaves are mixed up in this Tea. The *Toychong* leaves are those that are rejected from the *Souchong* and *Pouchong*, as being too large and not taking the roll. When the Teas are picked, these leaves are put on one side. The Chinese often put them into a bag, and give them a twist, something in the Green-Tea way, and then mix them up with the *Souchong* to add to the weight. This leaf (*Toychong*) becomes worse in the second and third crops;—it is a cheap Tea and sold to the poor. All the Black-Teas that are damaged have the flower of what the Chinese call *Qui fa*, and another called *Son fa*, mixed up with them. One pound of the flowers is put to each box of damaged Tea. After the Teas have been well tatched and mixed up with other sorts, these leaves give them a pleasant fragrance. The *Son fa* plant is about two feet high, and kept in flower pots; it is propagated from the roots. The *Qui fa* plant is from three to four feet high; one pound of the flowers is put to a box of Tea. This plant was seen in the Botanical Gardens at Calcutta by our Chinese interpreter. The flowers of this plant are considered finer than those of the *Son fa*. I annex a rough drawing of each of them, as given to me by the interpreter; the dots in the drawings are intended for small flowers.\*

The Black-Tea makers appear to me to be very arbitrary in their mode of manufacture; sometimes they will take the leaves of the *Thowung-Paho*, or perhaps *Twazee-Paho*; but if it has been raining, or there is any want of coolies to pluck the leaves quickly, or from any other cause, they will let the leaves grow

\* These two sketches are not deemed sufficiently instructive to be added here. One of them is entitled *Qui fa*, which is the name of the *Olea fragrans*, or Sweet-scented Olive, the flowers of which are said to be used for perfuming Teas. But it is more like the *Aglaia odorata*, a very different plant, which is also supposed to be applied in China for a similar purpose. This last, however, is called *Tsyudang* by the Chinese, according to Rumpf, and *Sam yeip lan* according to Roxburgh. The other sketch, entitled *Lan fa*, seems to be intended for a liliaceous, or at any rate an endogenous plant. I am unable to offer any conjecture about it.—N. W.

few days longer, and turn all into *Souchong*; which it must be remembered, takes all the small leaves above it. If it is the first crop, the *Souchong* and *Pouchong* leaves may all be turned into *Souchong* Tea; but even if it is the second crop, when the *Pouchong* leaves ought not to be gathered, they are nevertheless plucked and mixed up with the *Souchong* leaves. Almost all our Black- and all the Green-Teas have just been made from one garden. When the Green-Tea makers complained that the leaves were beginning to get too large for them—that is, they were fast growing out of *Souchong* and running into *Pouchong*—the Black-Tea makers took up the manufacture, plucked all the leaves, and made excellent *Pouchong*; so that between the two, there is not a leaf lost. When the Black-Tea makers have a garden to themselves they are cruel pluckers, for they almost strip the tree of leaves for the *Souchong*, and are not at all nice in the plucking; the third and even the fourth leaf on a tender twig is nipped off in the twinkling of an eye; they then look about for more young leaves, and away go the *Pouchong*, and *Toy-chong* too, which is the largest leaf of all. But the Green-Tea men pluck quietly, one by one, down to *Souchong*. The Black-Tea men separate all their Teas into first, second, third, and fourth crop; but the Green-Tea manufacturers make no distinction; they prepare all the Tea they can, throughout the season, box or basket it up, and when the season is over, they set off for Canton with their produce; at least all those who do not wish to sell their Tea on the spot. The different merchants go in quest of it there. It now indiscriminately undergoes the second process; that is, the different crops are all mixed up together. No old leaves can be mixed in the Green, as in the Black-Teas; for the long rolling in the pan crushes them, and the fan blows them away, so that only the young leaves are left.

We shall now take a comparative view of the number of men required by the Black and the Green-Tea makers for one pair of pans.

For the Black-Tea makers there will be required,

|                            |    |    |    |    |    |       |
|----------------------------|----|----|----|----|----|-------|
| to tatch,                  | .. | .. | .. | .. | .. | 2 men |
| — roll,                    | .. | .. | .. | .. | .. | 4 „   |
| — attend to the fire,      | .. | .  | .. | .. | .. | 1 „   |
| — dry,                     | .. | .. | .. | .  | .. | 1 „   |
| — beat and put in the sun, | .. | .. | .. | .. | .. | 2 „   |

---

Total number of men .. .. 10

To keep these men fully at work, from twenty-five to thirty coolies will be required to pluck leaves, and they will turn out about two

boxes of Tea per day, (weighing one maund, or 80 pounds) if the weather be fine and sunny; but scarcely half that quantity if it be rainy, on account of the coolies not plucking so much on a rainy day as they would on a fair sunny day. As the people of the country become acquainted with the gathering and manufacturing, three boxes, of forty pounds each, may be expected in fine weather, adding perhaps a few men to the number of coolies.

A pair of pans for the Green-Tea makers would require during the first process,

|  |        |       |
|--|--------|-------|
| to tatch,                                  | ... .. | 2 men |
| — receive the Tea from the pans,           | .. ..  | 1 „   |
| — roll,                                    | .. ..  | 8 „   |
| — attend to the fire,                      | .. ..  | 1 „   |
| — put the leaves in the sun and turn them, | .. ..  | 4 „   |
| Total number of men,                       |        | 16    |

Thirty coolies would be required to keep these men in full play and they would turn out two boxes of twenty-three seers, or forty-six pounds each, per day; in all ninety-two pounds of Tea. If the weather be rainy, of course the produce is much less; as the gatherers then do only half work. Thus the difference between the Black and Green is, that the former requires six manufacturers less; and that when the Black-Tea is finished, boxed, and ready for exportation, the Green has only undergone the first process, and is but half finished; although it is ready for exportation to any appointed place to receive the final and troublesome, as well as most expensive part of the process. Nevertheless the first part of the Green-Tea preparation is easily learnt by the natives of this place in about two or three months. In speaking of the trouble and expense attending the second process of the Green-Tea making, I beg to observe that it appears to me, from what little I have seen of it, that machinery might easily be brought to bear; and as Assam is about to become a great Tea country, it behoves us to look to this. The Tea half made, as above described, I am informed by the Green-Tea China men now with me, is put either into boxes or baskets, with bamboo leaves between; it has to make in this state a long journey by land and water, and then to go one or more months in a boat by sea, before it reaches Canton, where it is laid aside for one or two months more, before it undergoes the second process; making in all about five months from the time it was first prepared. All that is required is to keep it dry. Now if all this be true, which I have no doubt it is, I see no reason why we could not send it to England, and have it made up there. I rather see every thing in favor of such a plan



and nothing against it. After a year's instruction under Chinamen, it might be left to the ingenuity of Englishmen to roll, sift, and clean the Tea by machinery, and, in fact, reduce the price of the Green-Tea nearly one-half, and thus enable the poor to drink good unadulterated Green-Tea, by throwing the indigo and sulphate of lime overboard. At all events the experiment is worthy of a fair trial, and the first step towards it would be to manufacture the Tea at Calcutta; or perhaps it would be better to let the China Green-Tea makers go direct to England along with it, and have it manufactured there at once.

Now for a word about the Lead-canister maker, who is a very important man in our establishment; for without him, we could not pack our Teas.—On two tiles about an inch thick and sixteen inches square, is pasted, on one side, a sheet of very fine thick paper, said to have been made in Cochin-China, over this another sheet is pasted only at the edges. The paper must be very smooth, and without any kind of hole, knob, or blemish. To make it answer the purpose better, fine chalk is rubbed over it. The tiles thus prepared are laid one over the other and moved backwards and forwards, to ascertain if they work smoothly. The lower tile rests on two pieces of wood, about four inches in thickness, and the exact length of the tile. The room where the sheets of lead are made must be very smooth and level, as the tiles are apt to break when there is any unequal pressure on them. In the corner of the room there is a sunken brick fire-place, the upper part of which rises just a little above the floor; into this fire-place is inserted one of the cast iron pans used for making Tea, and in one corner of the masonry is a vent hole on which in general the Tea-kettle stands. The pan is heated by a wood fire; an iron ladle with a handle, about six or eight inches long, answers the purpose of taking the lead out of the pan when required. The pan may hold about twenty pounds. There is also another ladle with a long handle, and holes at the bottom, to take the dross off. When lead for the sides of the boxes is required, the proportion of one maund of lead to five seers of tin is put into the pan. When well melted and freed from dross, the two tiles above mentioned are placed on the two pieces of wood, one piece being nearly under the centre, and the other at the edge of the lower tile; the upper tile is placed on the lower tile even and square, projecting perhaps a little backward towards the operator. The tiles being thus placed near the melted lead, the Chinaman squats down on them, placing his heels near the edge, with his toes towards the centre; while with his left hand he lays hold of the corner tile, and with the right holds the short ladle, which he dips into the boiler, and takes out

about half a ladleful of the molten metal, tipping up the upper tile with the left hand about three inches, at the same time assisting the operation by pressing on his heels and gently lifting his toes. The upper tile being thus raised he dashes in the contents of the ladle between both, lets go with the left hand, and presses on with his toes, which brings the upper tile with some force to its former position over the lower one, and occasions the superfluous lead to gush out right and left and in front. The upper tile is then raised like the lid of a box, while the lower one rests on the piece of projecting wood underneath, and a fine thin sheet of lead, nearly the size of the tiles, is taken out, and thrown on one side; the upper tile is then gently lowered down, another ladle of hot lead dashed in, and so on in quick succession, about four sheets of lead being made in one minute. The lower tile projecting a little beyond the upper one assists the man to lay the ladle on, and pour the metal firmly and quickly. To vary the operation, the man sometimes stands up and places one foot on the upper tile, working with his heel and toes, the same as if both feet were on, and just as quickly. Many interruptions take place, such as examining the papers on the tiles, rubbing them with chalk, turning them round, and reversing them. Sometimes half a split bamboo is placed in front and under the tile with a piece of paper on it, to receive the lead that falls down, so that it may not come in contact with the ground. This lead is every now and then taken up and put back into the boiler. A maund of lead may make about twelve or thirteen boxes, which will hold forty pounds. There are also two other tiles, about a cubit square; these are used for making the tops of the canisters, which are generally of tin only, but can also be made from the above mixture. It is necessary in making the sheet-lead, to hold the sheets up and examine them; for if not properly prepared, there are sometimes a number of very fine holes in them which are not perceptible when lying on the ground or table. On this account the first twenty sheets of lead are thrown aside and rejected even without any examination. When the tiles have become nice and warm, it is then the fine and even sheets, without holes, are obtained. Before a sheet-lead canister can be made, it is necessary to have a model box made to fit into the wooden box, that is to hold the sheet-lead canister; on this box or shell the sheet-lead canister is made. It has a hole at the bottom to prevent any suction in putting it in, or drawing it out of the box or canister; and instead of a top it has a bar of wood across, by which it is drawn out. For soldering, tin, with the eighth or twelfth part of quicksilver, and some rosin are used. The wood part of some of the boxes is covered with paper pasted on and dried in the sun. To give the paper on the boxes a yellow colour, a mixture of paste with

pulverized and sifted saffron is laid on and dried. The paper on the corners of the boxes is ornamented by means of a wooden block with letters carved on it; on this bit of wood very thin paper, cut to its size, is placed, and a mixture, consisting of pulverized saffron, indigo, and water, having a deep green color, is laid singly on each bit of paper with a brush made of cocoonut fibres. These slips of paper are put one above the other, twenty thick, or as long as the paper takes the impression of the carved wood below. When the corners of the boxes have been ornamented with this paper and dried, another mixture, about the proportion of four seers of oil to three seers of rosin, boiled together, is applied with a cocoonut brush over all the boxes as a finish; after these are dry they are ready for the Tea.

The following table will shew the size and produce of the Tea tracts now worked, and the probable amount of Tea for this and the next season.

| Names of Tea tracts fully worked in 1838.                | Length and breadth of Tea tracts. | Number of plants in each Tea tract. | Average produce of single Tea plants. | Produce in 1838. | Remarks.   |
|--|-----------------------------------|-------------------------------------|---------------------------------------|------------------|--|
| No. 1 Tringri,   | 267 by 90                         | 5,000                               | 4 Sa. Weight,                         | 260 Seers        | The plants are small in this tract including China plants. |
| No. 2 Tringri,   | 155 by 70                         | 2,340                               | 3-12 Sa. Wt.,                         | 160 "            |  |
| No. 1 Kahung,  | 480 by 210                        | 1,36,000                            | 4 Sa. Weight,                         | 680 "            |  |
| No. 1 Chubwa,  | 200 by 160                        | 8,200                               | 4 Sa. Weight,                         | 410 "            |  |
| Benjoy,.....   | 223 by 171                        | 8,400                               | 2 Sa. Weight,                         | 210 "            |  |
| From Shady Tracts, ..                                    | ..                                | ..                                  | ..                                    | 1,720            |  |
|  |                                   |                                     |                                       | 390              |  |
|  |                                   |                                     |                                       | 2,110            |  |
| The probable increase of the above Tracts for 1839. .... |                                   |                                     |                                       | 527              |  |
| Probable produce of 1839. ....                           |                                   |                                     |                                       | 2,637 Seers      | 5,274 lbs.   |

| Names of the tracts to be worked in 1840.            | Length and breadth of Tea tracts. | Number of plants in each Tea tract. | Probable produce of one Tea plant. | Probable produce in 1840. | Remarks.   |
|--|-----------------------------------|-------------------------------------|------------------------------------|---------------------------|--|
| No. 2 Kahung,  | 192 by 114                        | 4,720                               | 3 Sa. Weight,                      | 177                       | The plants in these tracts now small will not yield a good crop for two years. |
| No. 3 Do.  | 215 by 70                         | 3,440                               | 3 Sa. Weight,                      | 129                       |  |
| No. 2 Chubwa,  | 160 by 70                         | 2,420                               | 3 Sa. Weight,                      | 90                        |  |
| Nowholea,  | 476 by 160                        | 16,480                              | 3 Sa. Weight,                      | 618                       |  |
| Tipun,   | 344 by 331                        | 24,620                              | 3 Sa. Weight,                      | 922                       |  |
| Jugundoo,  | 400 by 200                        | 17,300                              | 3 Sa. Weight,                      | 648                       |  |
| Ningrew,   | 300 by 189                        | 12,260                              | 3 Sa. Weight,                      | 459                       |  |
| The probable produce of the above 7 tracts, .....    |                                   |                                     |                                    | 2,943                     |  |
| Add the probable produce of the other 5 tracts. .... |                                   |                                     |                                    | 2,637                     |  |
| Probable produce of all the tracts in 1840. ....     |                                   |                                     |                                    | 5,580                     | 11,160 lbs.  |

It should be borne in mind that this is a rough calculation, and I can only give the probable amount. Most of these plants are very young or have been recently cut down; a few years hence the plants may yield twice the above quantity. The first table exhibits the absolute produce of 1838. Now let us suppose a new settler were to take land in these parts; what would be his expenses if he were only to cultivate Tea, and had to clear forest land (in the vicinity of the Tea) ten times the size of *Nowholeah*, which is, say 400 by 200 yards and which would cost him 200 Rupees to clear. Ten such tracts would cover 8,00,000 square yards. Now, to cover this surface of ground with Tea plants, and the plants six feet apart each way, 3,55,555 plants would be required; but if two plants were to be placed together, as I would recommend, then 7,11,110 plants would be required. The cost would probably be at the rate of five annas for 300 plants thus:

|  |       |    |
|--|-------|----|
| The clearing of 10 tracts, each 400 by 200 yards, ..   | 2,000 | 0  |
| 7,11,110 Tea plants, at 5 annas for 300, .. ..   | 740   | 11 |
| Planting the above, .. .. .  | 474   | 0  |
| Weeding each tract 3 times each year, at 30 Rs. each tract,  | 900   | 0  |
| 5 Tea houses, at 50 Rs. each, .. .. .  | 250   | 0  |
| 200 Hoes at 1 Rupee each, .. .. .  | 200   | 0  |
| 100 Axes at 1 Rupee each, .. .. .  | 100   | 0  |
| 100 Daws at 1 Rupee each, .. .. .  | 100   | 0  |
| Dollahs, Challonis, &c., bamboo apparatus, .. ..   | 200   | 0  |
| 8 Saws at 5 Rs. each, .. .. .  | 40    | 0  |
| Charcoal and firewood for baking the Tea, .. ..  | 200   | 0  |
| 40 Cast-iron pans, at 4 Rs. each, .. .. .  | 160   | 0  |
| Paper for Tea boxes, .. .. .   | 100   | 0  |
| Chalk and Indigo, .. .. .  | 50    | 0  |
| 3 Maunds of Nails of sizes, at 10 Rs. per maund, ..  | 30    | 0  |
| 2 Elephants at 150 Rs. each .. .. .  | 300   | 0  |
| 2 Elephant mahoots at 6 Rs. each per month, .. ..  | 144   | 0  |
| 2 Elephant mates at 4 Rs. each per month, .. ..  | 96    | 0  |
| Rice for 2 Elephants, .. .. .  | 96    | 0  |
| Lead for 888 boxes, at 3 seers per box containing 20 seers,<br>at 8 Rs. per maund, .. .. .   | 532   | 12 |
| A Cooly sirdar at 10 Rs. per month, .. .. .  | 120   | 0  |
| 10 Duffadars, or Overseers of coolies at 3 Rs. per month   | 360   | 0  |
| Coolies to collect leaves, 30 to each tract, 20 days to each<br>crop; for 3 crops, or 60 days, at 3 Rs. for each man<br>per month, .. .. . | 1,800 | 0  |

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Carried over, .. 8,993 8

|  |                  |       |   |   |
|--|------------------|-------|---|---|
|  | Brought over, .. | 8,993 | 8 | 5 |
| Native carpenters, at 12 Rs. ditto, .. .. .                              | 576              | 0     | 0 |   |
| Sawyers, at 4 Rs. ditto, .. .. .   | 384              | 0     | 0 |   |
| Native Lead-canister makers, at 12 Rs. ditto, .. .. .                    | 288              | 0     | 0 |   |
| Coolies to bring in timber for Sawyers, .. .. .                          | 150              | 0     | 0 |   |
| Chinamen at 30 Rs. each per month, .. .. .                               | 1,800            | 0     | 0 |   |
| 20 Native Tea makers at 5 Rs. each, for 5 months, or one season, .. .. . | 3,000            | 0     | 0 |   |
| Freight to Calcutta, .. .. .   | 400              | 0     | 0 |   |
| Ditto to England, .. .. .  | 1,000            | 0     | 0 |   |

Total outlay for 10 tracts, Co's. Rs. 16,591 8 5

*Deduct charges that are not annual, viz.—*

|                                 |       |   |   |           |
|---------------------------------|-------|---|---|-----------|
| Clearing of tracts, .. .. .     | 2,000 | 0 | 0 |           |
| Purchase of Tea plants, .. .. . | 740   | 0 | 0 |           |
| Planting ditto, .. .. .         | 474   | 0 | 0 |           |
| Building Tea houses, .. .. .    | 150   | 0 | 0 |           |
| Purchase of Hoes, .. .. .       | 200   | 0 | 0 |           |
| Do. Axes, .. .. .               | 100   | 0 | 0 |           |
| Do. Daws, .. .. .               | 100   | 0 | 0 |           |
| Do. Saws, .. .. .               | 40    | 0 | 0 |           |
| Do. Bamboo apparatus, .. .. .   | 200   | 0 | 0 |           |
| Do. Elephants, .. .. .          | 300   | 0 | 0 | 4,304 0 0 |

Total annual outlay on 10 tracts, 12,287 8 5

|  |    |        |   |   |
|--|----|--------|---|---|
| Average produce of 3,55,555 tea plants at 4 Sa. }<br>Wt. each plant, is 444 Mds. or 17,777 Srs., }<br>or 35,554 lbs. at 2s., or 1 rupee, per pound, }<br>would be, .. .. . } | .. | 35,554 | 0 | 0 |
|--|----|--------|---|---|

Annual profit on 10 tracts, Co's. Rs. 23,266 7 7

| <i>Annual outlay</i>     | Co's. Rs. | <i>Annual profits</i>   | Co's. Rs. |
|--------------------------|-----------|-------------------------|-----------|
| For 10 tracts, .. .. .   | 12,287    | On 10 tracts, .. .. .   | 23,266    |
| For 100 tracts, .. .. .  | 1,22,870  | On 100 tracts, .. .. .  | 2,32,660  |
| For 1000 tracts, .. .. . | 12,28,700 | On 1000 tracts, .. .. . | 23,26,600 |

N. B.—The deduction of 4304 Rs. not being annual outlay is not included in this calculation above 10 Tracts.

|              | Tea tract. | Duffadars. | Takejah. | Coolies. |
|--------------|------------|------------|----------|----------|
| Required for | 1          | 1          | 10       | 30       |
| „ for        | 10         | 10         | 100      | 300      |
| „ for        | 100        | 100        | 1000     | 3000     |

It must be remembered that this calculation has been made on 3,55,555 plants, not on double that number as I proposed, viz. to plant them in pairs, which would certainly, on the lowest calculation, increase the profits thirty per cent. It should be borne in mind also, that 4 sicca weight is not the full produce of each plant; when full grown it will yield double that, or 8 sicca weight, and some even as high as 10 to 12 sicca weight. I have calculated at the rate of 4 sicca, which was absolutely produced in 1838. The plant will, I should think, produce 25 per cent more this year, and go on increasing to what I have above mentioned. But then, on the other hand, the items which I have set down, are not all that will be required to carry on this trade on an extensive scale. The superintendence, numerous additional artizans that will be required, and a thousand little wants which cannot be set down now, but which must necessarily arise from the nature of the cultivation and manufacture, will go far to diminish the profits, and swell the outlay; but this of course will last but a few years, until the natives of the country have been taught to compete with Chinamen. It should also be remembered, that the calculation I have made on ten tracts is on a supposition that we have a sufficient number of native Tea-makers and Canister-makers, which will not be the case for two or three years to come. It is on this point alone that we are deficient, for the Tea plants and lands are before us. Yes, there is another very great drawback to the cultivation of Tea in this country; and which I believe I before noticed, namely the want of population and labourers. They will have to be imported and settled on the soil, which will be a heavy tax on the first outlay; but this, too, will rectify itself in a few years; for, after the importation of some thousands, others will come of themselves, and the redundant population of Bengal, will pour into Assam, as soon as the people know that they will get a certain rate of pay, as well as lands, for the support of their families. If this should be the case, the Assamese language will in a few years be extinct.

I might here observe, that the British Government would confer a lasting blessing on the Assamese and the new settlers, if immediate and active measures were taken to put down the cultivation of Opium in Assam, and afterwards to stop its importation, by levying high duties on Opium land. If something of this kind is not done, and done quickly too, the thousands that are about to emigrate from the plains into Assam, will soon be infected with the Opium-mania,—that dreadful *plague*, which has depopulated this beautiful country, turned it into a land of wild beasts, with which it is overrun, and has degenerated the Assamese, from a fine race of people, to the most abject

vile, crafty, and demoralized race in India. This vile drug has kept, and does now keep, down the population; the women have fewer children compared with those of other countries, and the children seldom live to become old men, but in general die at manhood; very few old men being seen in this unfortunate country, in comparison with others. Now but those who have resided long in this unhappy land know the dreadful and immoral effects, which the use of Opium produces on the native. He will steal, sell his property, his children, the mother of his children, and finally even commit murder for it. Would it not be the highest of blessings, if our humane and enlightened Government would stop these evils by a single dash of the pen, and save Assam, and all those who are about to emigrate into it as Tea cultivators, from the dreadful results attendant on the habitual use of Opium? We should at the end be richly rewarded, by having a fine, healthy race of men coming up for our plantations, to fell our forests, to clear the land from jungle and wild beasts, and to plant and cultivate the luxury of the world. This can never be effected by the enfeebled Opium-eaters of Assam, who are more effeminate than women. I have dwelt thus long on the subject, thinking it one of great importance, as it will affect our future prospects in regard to Tea; also from a wish to benefit this people, and save those who are coming here, from catching the plague, by our using timely measures of prevention.

*Monthly outlay of the present standing Establishment.*

|   |    |    |    |    |    | <i>Co's. Rs.</i> |    |   |
|---|----|----|----|----|----|------------------|----|---|
| Superintendent,                             | .. | .. | .. | .. | .. | 500              | 0  | 0 |
| Assistant to Do.                            | .. | .. | .. | .. | .. | 100              | 0  | 0 |
| and Do. Do.                                 | .. | .. | .. | .. | .. | 70               | 0  | 0 |
| Chinese Black-Tea maker,                    | .. | .. | .. | .. | .. | 55               | 11 | 6 |
| Ditto Assistant to Ditto                    | .. | .. | .. | .. | .. | 11               | 1  | 6 |
| Ditto Tea-box maker,                        | .. | .. | .. | .. | .. | 45               | 0  | 0 |
| Ditto Interpreter,                          | .. | .. | .. | .. | .. | 45               | 0  | 0 |
| Ditto Tea-box maker,                        | .. | .. | .. | .. | .. | 15               | 8  | 6 |
| Ditto Green-Tea makers, at 15 : 8 : 6 each, | .. | .. | .. | .. | .. | 31               | 1  | 0 |
| Ditto Tea-box maker,                        | .. | .. | .. | .. | .. | 33               | 4  | 6 |
| Ditto Lead-canister maker,                  | .. | .. | .. | .. | .. | 22               | 3  | 0 |
| Native Black-Tea makers, at 5 each          | .. | .. | .. | .. | .. | 120              | 0  | 0 |
| Native Green-Tea makers, at 5 each,         | .. | .. | .. | .. | .. | 60               | 0  | 0 |
| Native Carpenter,                           | .. | .. | .. | .. | .. | 4                | 0  | 0 |
| Coolie Sirdar,                              | .. | .. | .. | .. | .. | 10               | 0  | 0 |

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Carried over, ... 1,122 14 0

|   |    |    |    |                            |       |    |
|---|----|----|----|----------------------------|-------|----|
|   |    |    |    | Brought over,..            | 1,122 | 14 |
| 4 Mahouts, at 6 each,                   | .. | .. | .. | ..                         | 24    | 0  |
| 4 Ditto Mates, at 4 each,               | .. | .. | .. | ..                         | 16    | 0  |
| Rice for 4 Elephants per month,         | .. | .. | .. | ..                         | 18    | 0  |
| 4 Sawyers, at 4 each,                   | .. | .. | .. | ..                         | 16    | 0  |
| 2 Dâk runners, at 3 : 8 : 0 each,       | .. | .. | .. | ..                         | 7     | 0  |
| 4 Duffadars, at 3 each,                 | .. | .. | .. | ..                         | 12    | 0  |
| Fixed monthly expenditure in Assam,     | .. | .. |    |                            | 1,215 | 14 |
| Cash paid to Chinese families in China, | .  | .. |    |                            | 131   | 2  |
|   |    |    |    |                            | <hr/> |    |
|   |    |    |    | Total monthly expenditure, | 1,347 | 0  |

or 16,000 a year, not including coolies and other items. It should be remembered that this establishment has been confined to a few tracts as an experiment, and has never been fully worked. The Chinese Green-Tea makers, Canister-makers and Interpreter, have lately been added to the establishment; their services have not as yet been brought into account. We are just now availing ourselves of them in making Green-Tea; and as the natives at present placed under their become available, large quantities of excellent Green-Tea will be manufactured. I suppose two Chinamen might qualify twenty-four natives for the first process; the second, as I have already recommended, might be performed in England, which in my humble opinion would effect a great saving, by getting machinery to do the greater part of the work. At all events, it never could be manufactured in Assam without a great expense, and this for want of labourers. However, it is gratifying to see how fast the Chinese acquire the Assamese language; for, after they have been a year in the country, they begin to speak sufficiently well for all ordinary purposes, so that an interpreter can very well be dispensed with. Our Chinamen can speak the Assamese language much better than the interpreter can the English language. They are a violent, headstrong, and passionate people, more especially as they are aware we are so much in their power. If they many behave as do the few, a Thannah would be necessary to keep them cool.

With respect to what are called the *Singpho* Tea tracts, I am sorry to say we have not been able this year to get a leaf from them, on account of the disturbances that have lately occurred there; nor do I believe we shall get any next year, unless we establish a post at *Ningrew*, which I think is the only effectual way to keep the country quiet, and secure our Tea. The Tea from these tracts is said by the Chinamen to be very fine. Some of the tracts are very extensive, and



any may run for miles into the jungles for what we know; the whole of the country is capable of being turned into a vast Tea garden, the soil being excellent, and well adapted for the growth of Tea. On both sides of the Buri-Dehing river, as will be seen by the map, the Tea grows indigenous; it may be traced from tract to tract to *Hookum*, thus forming a chain of Tea tracts from the Irrawaddy to the borders of China, east of Assam. Ever since my residence at Sudiya this has been confirmed year after year by many of my Kamtee, Singpho, and Bewaneah acquaintances, who have traversed this route. It is therefore important for us to look well to our Eastern frontier, on account of our capability to extend our Tea cultivation in that direction. England alone consumes 31,829,620 lbs. nearly four laks of maunds, annually. To supply so vast a quantity of Tea, it will be necessary to cultivate all the hills and vallies of Assam; and on this very account post at *Ningrew* becomes doubly necessary. A few years hence, it may be found expedient to advance this frontier post to the top of the *Patkai* hill, the boundary line of our eastern frontier. Any rupture with Burmah would add to our Tea trade, by taking from them *hookum* and *Munkoom*, and having the Irrawaddy as our boundary line. These countries are nominally under the Burmese, as they pay small annual tribute; but this can never be collected without sending an armed force. They are said to be thinly inhabited, the population being kept down by the constant broils and wars, which one petty place makes upon another for the sake of plunder. All the inhabitants drink Tea, but it is not manufactured in our way; few, it is said, cultivate the plant. I have for years been trying to get some seeds of plants from them, but have never succeeded, on account of the disturbed state in which they live. The leaves of their Tea plants have always been represented to me as being much smaller than ours.

*Muttuck* is a country that abounds in Tea, and it might be made an extensive, beautiful Tea garden. We have many cultivated experimental tracts in it; we know of numerous extensive uncultivated tracts, and it appears to me that we are only in the infancy of our discoveries as yet. Our Tea, however, is insecure here. It was but a month or two ago that so great an alarm was created, that my people had to retire from our Tea gardens and manufacture at Deenjoy and Chubya, which will account for the deficiency of this year's crop. Things must continue in this state until the government of the country is finally settled; for we are at present obliged, in order to follow a peaceful occupation, to have the means of defending ourselves from a sudden attack, ever since the unfortunate affair at Sudiya. Before the transfer of the Tea tracts in this country can be made, it will be

necessary, in justice to all parties, to know if *Muttuck* is, or is to become, ours or not. The natives at present are permitted to cultivate as much land as they please, on paying a poll-tax of two rupees per year; so that if the country is not ours, every man employed on the Tea will be subject to be called on for two rupees per annum, to be paid to the old Bura Senaputy's son, as governor of the country. This point is of vital importance to our Tea prospects up here. Many individuals might be induced to take Tea grounds, were they sure, that the soil was ours, and that they would be protected and permitted to cultivate it in security.

In looking forward to the unbounded benefit the discovery of the plant will produce to England, to India,—to Millions, I cannot but thank God for so great a blessing to our country. When I first discovered it, some 14 years ago, I little thought that I should have been spared long enough to see it become likely eventually to rival that of China, and that I should have to take a prominent part in bringing it to so successful an issue. Should what I have written on this new and interesting subject be of any benefit to the country, and the community at large, and help a little to impel the Tea forward to enrich our own dominions, and pull down the haughty pride of China, shall feel myself richly repaid for all the perils and dangers and fatigues, that I have undergone in the cause of British India Tea.

JAIPORE,  
10th June, 1839.

ART. VIII.—*Proceedings of the Asiatic Society.*

(Wednesday Evening, the 7th August, 1839.)

The Honorable Sir E. RYAN, President, in the chair.

Read the Proceedings of the last Meeting.

Read the following letter from Professor WILSON:—

*Library, East India House, London, 12th April, 1839*

DEAR SIR,—The continued serious illness of Mr. J. PRINSEP, and the uncertainty its termination, render it impossible to communicate with him on the affairs of the Asiatic Society, and I must therefore trouble you on a subject on which he wrote to me on the Society's behalf sometime ago. Under the authority I then received, I applied to Sir F. CHANTREY to furnish the Society with a copy of his bust of Mr. COLBROOKE, and of one of Sir W. JONES, from the head of the statue in St. Paul Cathedral. Both have been prepared under his superintendance by a sculptor of great merit, his pupil Mr. WEEKES, and are nearly completed. The cost is severally six

and seventy guineas, (136*l.* 10*s.*) and it should be paid as soon as the busts are moved. I am not aware however if any arrangement has been made to remit the above sums, although I apprised Mr. PRINSEP of the amount. His lamented indisposition, and hurried departure from India, will probably have prevented him from taking any steps on the occasion. If the remittance has been made, I shall be obliged to you to inform me in what manner; if not, as is most likely, I shall be obliged to you to obtain the authority of the Society to the money being sent me without delay.

It is very probable that a similar omission may have occurred in regard to the amount Dr. MILL's bust, which you will therefore be kind enough to correct by forwarding the amount either to him or to me. The plaster model of his bust is completed, and most excellent, both as to its general character and individual resemblance. It and the other two will form most admirable, as well as appropriate decorations of the Society's apartments.

Yours very truly,

H. H. WILSON.

The Secretary informed the Meeting that the draft for 136*l.* 10*s.* has been remitted Dr. WILSON by the last Overland; and that subsequent inquiry had shewn that Mr. PRINSEP had a larger sum than that required at the credit of the Society in the hands of his London Agents.

Read a letter from J. FORSHALL, Esq., Secretary to the British Museum, acknowledging receipt of No. 80 of the Journal Asiatic Society.

The Secretary brought to the notice of the Meeting that the present Pundit, RAMCHAND WIND GOSSAMEE, has been found incompetent to decypher the Inscriptions to which the Society are most desirous to give publicity, either in their monthly publication, or in their Transactions, he therefore proposed that the celebrated KAMALAKANTHA GOYALANKA be appointed for that office, and also as the Librarian for the Oriental Books.

The proposition was unanimously carried.

#### *Library.*

The Secretary informed the Meeting of the arrival of several books selected by Professor WILSON and Dr. CANTOR, amounting in cost to 63*l.* 4*s.* 6*d.*, as per list forwarded to the booksellers, Messrs. ALLEN and Co.

Smith's Fossil Flora, 3 vols. 8vo. boards.

Agassiz' Fossil Fishes, Parts 1 to 9 and 11, folio and 4to.

Russell's Fishes of the Coromandel Coast, 2 vols. folio.

Russell's continuation of the Coromandel Serpents, 2 vols. folio.

Cuvier and Valenciennes Histoire Naturelle des Poissons, vols. 8, 9, 10, 11, and 12.

Do. additional plates, to vol. 11, 8vo.

Cuvier's Introduction to Lamarck's Conchology, coloured 4to. boards.

Boulton's Himalayan Birds, 1 vol. imperial folio.

Gardner's Cabinet Cyclopædia—from the Booksellers.

*Literary and Antiquities.*

Read the following reply from Government to the request of the Society for a subscription for a certain number of copies of the "*Sharya-ul-Islam*," which the Society has undertaken to print in conjunction with the Nawab JABAWUR JUNG.

*To the Officiating Secretary to the Asiatic Society.*

*General Dept.*

SIR,—I am directed to acknowledge the receipt of your letter dated the 2d *Mo* last, and in reply to inform you, that the Honorable the President in Council will take 25 copies of the *Sharya-ul-Islam* at 20 Co's Rs. per copy, for the use of the Seminary of education which give instruction in Arabic Law. On the receipt of the copies the necessary orders will be issued to discharge your bill on presentation at the General Treasury.

I am, Sir,

Your obedient servant,

*Council Chamber, 24th July, 1839.*

H. T. PRINSEP,

*Secy. to Govt. of India*

Read a letter from Captain P. GERARD, forwarding two boxes of stone Idols discovered by his late brother, Dr. J. G. GERARD, and Lieut. Col. Sir Alexander BURNES near *Manikayala*, on their route to India, 1833 and 1831.

'I take this opportunity of acquainting you for the information of the Asiatic Society of having despatched by water two boxes to your address, to the care of my agents Messrs. COCKERELL and Co., who shall be apprized of the same. One is a large square box containing a Stone Idol in excellent preservation and beautifully executed and complete excepting the face of one of the female figures, which is wanting. The face of the other female figure was accidentally broken off, but it has been carefully packed up in paper, and with a little cement it can easily be united, and appear as if nothing had occurred to it.

'The other is a small square box containing fragments of Idols. The whole were obtained for at considerable expense in Afghanistan, at or somewhere near *Manikayala* by my brother, the late Dr. J. G. GERARD, while he was on his return route to India, during 1833 and 1831, from *Meshid* in Persia, where he separated from his companion and fellow-traveller, Lieutenant (now Lieutenant Colonel) Sir Alexander BURNES, Kt. Major. We therefore request that you will do me the favour of presenting the contents of both boxes on their arrival, to the Asiatic Society on my part, as having been the discoveries of my brother, the late Dr. J. G. GERARD.

'I regret to say that no particulars of their locality were found amongst my brother's voluminous MS. papers, relating to his interesting journey, owing unfortunately to the circumstance of two-thirds of the whole having unaccountably disappeared, or been lost, which is much to be regretted, as they contained valuable information respecting *Hcerat* and *Kandahar*, and the countries between *Meshid* and *Ca* especially about the resources of these parts, their trade, manufactures, and products. What remained of his papers (with the exception of his meteorological observations during his absence from the end of 1831 and beginning of 1832, till March 1831, which I shall take an early opportunity of transmitting to the Society for publication at an interesting period,) were forwarded to Europe in 1836.

'Last year I was promised the necessary information respecting the Idols from Moonshah MOHUN LAL, but not having received it, I was unwilling to delay their dispatch any longer. Should he favour me with any particulars on the subject, I shall derive great pleasure in communicating the same to the Society.

'P. GERARD, *Captain.*'

The boxes and contents were safely received. The thanks of the Society were voted to Capt. GERARD for this acceptable donation.

A stone Pillar of exquisite beauty and genuine Hindu style, considered to belong to the 13th century, was presented by Mr. W. S. ALLEN, by whom it was discovered with several fragments of a ruined temple, &c., on one of the shallows near *Pubna*. Lieut. KITTOE has undertaken to prepare an account and drawing of this Pillar for the next number of this Journal.

Translation of a play exemplifying the popular tone of the Burmese Drama was presented by Mr. BLUNDELL.

#### *Physical.*

Daily Observations of the Tide at Singapore for February, March, and April, 1839.

With reference to the resolution of the Meeting held on the 2nd January last, the Secretary apprised the Meeting that he had received a letter from Messrs. TAYLOR and WALTON, stating that they will supply such impressions of their Anatomical Wood-cuts as the Society may require.

*Upper Gower Street, May 7th, 1839.*

SIR,—Your letter of the 10th of February to DR. QUAIN on the subject of the Illustrations in his *Elements of Anatomy* has been handed to us. In reply, we beg to inform you that we shall be happy to forward the views of the Society by supplying whatever number of impressions from our engravings the Society may require. As much of the work in the Wood-cuts is very delicate, we should run a great risk of seriously injuring the blocks, by attempting to take casts from them. On this account we are prevented furnishing the metal casts, but the former plan we shall be happy to carry out in any way the Society may desire. We think your work would be much improved by the engravings being worked in this country, as the appearance of a wood-cut depends quite as much upon the printing as upon the engraving, and of course wood-cut printing has as yet been but little attended to in India. If you determine upon having the impressions, perhaps you will have the kindness to send us the following particulars:—

- 1st. The size of the volume for which the Plates are required.
- 2nd. The Number of Copies required.
- 3rd. The arrangement you would wish of the subject; how many on each plate; and in what order?
- 4th. Whether you would require the same number of the steel plates of the Brain, &c.

We remain, Sir,

Your obedient servants,

TAYLOR AND WALTON.

P.S. Presuming your work to be in demy 8vo. we would supply you with Impressions from our cuts upon the following terms:—

For 500 Sets, supposing each set occupied 5 sheets demy 8vo. printed on one side only (in all 40 pages of cuts,) 37l. 10s. which sum would include the use of the Blocks, Presswork, and Paper. £ s. d.

For 1,000 ditto ditto ditto, .... 67 10 0

The four steel plates of the Brain would cost you, including Paper,

Presswork, & use of Plates for 500 impressions 4 plates demy 8vo. 8 8 0

1,000 ditto ditto ditto, .... 16 16 0

To W. B. O'SHAUGHNESSY, Esq.

Resolved—That Messrs. TAYLOR and WALTON be requested to send 1000 copies of each set of plates.

[It will be remembered that these plates have been requested for the illustration of the "*Shanra Vidya*," or Sanscrit translation of "Hooper's Anatomist's Vade Mecum. The thanks of the Society were directed to be proffered to Professor QUAIN for his liberal aid in acceding to their request.]

Read a letter from Dr. J. T. PEARSON, forwarding an account of the *Bora chung*

Read a letter from Dr. G. G. SPILSBURY, forwarding a specimen of a vein of Coal found close to the surface, about nine miles from Jubbulpore.

*To the Secretary to the Asiatic Society.*

SIR,—Herewith I beg to transmit specimen of a vein of Coal found close to the surface, about nine miles from this station.

It was first brought to notice by Mr. C. FRASER, the Agent of the Governor General for these territories, who received his information from a *Faquir*, by whom he was informed that at a place a few hundred yards above *Lametur Ghat*, on the *Nei budda* river, when the stream was at its lowest, (Charcoal stone, as he phrased it) was to be found, and that on applying fire it ignited.

Mr. FRASER and self visited the spot, situated near the middle of the river, and some 30 or 40 square yards, apparently the vein has also been traced on both side of the river. Several of the residents have had hackery loads brought in, and find it answer well for domestic and culinary purposes. The blacksmiths are very unwilling to use it, and declare there is not sufficient heat from it to smelt iron.

I have no doubt that were a proper shaft sunk, Coal of good quality would be found and equal to that discovered by Major Ouseley near *Garrahwarrah*, and on which such a good report was lately made in comparative trials at Bombay.

I have the honor to request you will present the specimen to the Society, and shall be glad to learn the result of its analysis. I remain, &c.,

GEORGE G. SPILSBURY

*Jubbulpore, 29th June, 1839.*

The analysis of this Coal has been duly made, and the results will be published, with several similar analyses in an early number of the Journal.

Read a letter from Dr. H. H. SPRY, forwarding on behalf of Captain F. JENKINS Political Agent of Assam, for presentation to the Society, specimens of rocks and minerals of the county of Cornwall, as well as other parts of England.

GENTLEMEN,

Calcutta, August 6th, 1839.

I do myself the pleasure of forwarding for presentation, at the approaching Meeting of the Asiatic Society, the accompanying specimens of the geology of the county of Cornwall, as well as other parts of England, on behalf of Captain JENKINS, Political Agent of Assam; and for him I have to solicit, in return, any duplicate geological specimens the Society may possess for presentation to the Royal Institution Cornwall. In this request I beg to join with Captain JENKINS, as we both feel assured that the rich stores which the Cornish Museum contains will be readily made available to the improvement of the Asiatic one, and an interchange thus be effected which will prove of mutual benefit.

I beg further to add, that should the Society be pleased to accede to this proposal, it shall be happy to be the medium of communication between the two institutions, far as assisting in facilitating the transmission of the specimens.

HENRY H. SPRY.

*Joint Secretaries of the Asiatic Society of Bengal.*

The thanks of the Society were voted to Captain JENKINS, and the Curator was requested to form a suitable series of the Museum duplicates for presentation to that officer. With reference to this and some similar communications, the President observed that he was very desirous of recording his opinion that the correspondence of the Society, should on all occasions pass through the Secretaries, the regular and usual channels. Direct correspondence emanating from other officers of the Society he considered informal. He thought, for example, that all correspondence relative to the Museum should pass through the Secretaries, and he proposed a resolution to that effect, which was seconded by Mr. H. T. PRINSEP, and carried unanimously.

Dr. M'CLELLAND presented some specimens of Mineral Ore with the following letter:—

SIR,—I did myself the pleasure, some time last month, of forwarding to your address, a small package containing two or three specimens of Jasper and Asbestos, and one of Iron ore, entrusted to my care, when at Ferozepore, by Mr. C. MASSON, who told me that he had almost forgotten they were amongst his baggage, not having paid much attention to what was packed up by his servants when leaving Kabul. I had mislaid his ticket for the specimen of the ore, which I now enclose, lest I should have made any mistake in my own label, as to the place from whence the ore was obtained.

I beg to add that the ore is nearly similar, but not quite so pure or rich looking, as it obtained from the mines in the southern portion of the Busahir state.

GEORGE JEP SHON.

Meerut, July 27th, 1839.

Mr. H. T. PRINSEP recalled the attention of the Society to the proceedings at the Meeting of the Society held on the 6th September, 1837. Mr. JAMES PRINSEP had appropriated the sum of 1500 francs (equivalent to Co's. Rs. 625) allotted by the Minister of Public Instruction in France, in procuring from Benares

copies of the *Vedas* which were sent to France, as prepared, through Capt. A. TROYE agent of the Society in Paris. Since Mr. JAMES PRINSEP's departure for England several further *Pothis* have been sent down, and are now ready for transmission. The sum advanced has been exceeded by the charges for copying, and the balance has been paid from Mr. JAMES PRINSEP's private funds, not from those of the Society. The copies in sheets were ready to be sent to Europe, and the account prepared from Mr. JAMES PRINSEP's private books of sums remitted by him to JUDDO NATH PUNDIT at Benares, shews an amount of Rs. 233 : 7 : 9, as the balance due by the Government of France; part of this amount however, viz. Rs. 196 : 3 : 6, was advanced at Benares from funds realised there by sale of the Society's Oriental publications, as shewn in the account of Messrs. TUTTLE and CHARLES, Mr. JAMES PRINSEP's Agents. It remains for the Society now to declare whether the copying for the French Government shall be considered as a private transaction between Mr. JAMES PRINSEP and the French Government, or as executed by him as Secretary to the Society. In the former case, the balance 196 : 3 : 6, will be paid into the Society's Treasurer's hands and the copies of the *Vedas* now ready, will be sent on Mr. JAMES PRINSEP's private account, with a claim for the balance from that Government; but if the Meeting consider the transaction as their own, then the Society will have to pay the difference between Rs. 196 : 3 : 6 and 233 : 7 : 9, viz., 37 : 4 : 3, to Mr. JAMES PRINSEP's agents, and to forward copies of *Vedas* officially through their Secretary to the Agent in Paris.

Resolved unanimously—That the transaction is one which appertains to the Society, and that the copies of the *Vedas* be taken over, and the account closed.

The Honble. Mr. BIRD exhibited to the Meeting a sketch of the Camel carriage in which Mr. BIRD, of Allahabad, had recently made an official tour of 2000 miles in Upper India.

This sketch, with some papers on the subject, will appear in our next number.

Read extracts from a letter from Baron HUGEL to the address of Mr. JAMES PRINSEP.

‘Kritzling, near Vienna, Dec. 25, 18

‘I have received a few days ago, the four numbers of your Journal, Nos. 72, 73, 74, and 75, and I cannot find words to express the interest I took in following from beginning to the end, your extraordinary discoveries. It is really worthy of your spirit, of your genius, to come to a fact of such immense consequences for history, and I think it proves more than any thing else, of no direct intercourse between what is called the *Peninsula* of India and Egypt—I mean of no trading vessels from Berber to any port of the Malabar coast. I don't believe in long voyages without sails those days, and the knowledge the Greeks and Egyptians possessed of India is much better explained in the tablets of Ginnar, than by the idea of savants travelling for information without the vanity of telling it in their works. But when really Miss



es went to Egypt and Greece it is astonishing that nothing of this truly interesting fact should have been mentioned in any work of a Greek author. But this may be it is, I am sure that you are only at the beginning of your work, and that we may look for real Indian history, from the time of Alexander the Great, at least, to the invasion of the Mohamedans.

'It is a considerable time I did not write to you, my dear Sir, but I was afraid to take away from your valuable time, which you employed even beyond my expectations: if I did hesitate any longer to send you a few lines, I am afraid I could be entirely capable your memory. I take the liberty at the same time to send you for the Society (you think it worthy) "the Fishes of Kashmir," found by myself in the valley, and brought home with me. I am sorry that it is in German, but as it is my *native tongue*, I think it my duty to publish in it. There is another work now printing, which I hope will prove a good one: it is "Kashmir and the Sihks" in four volumes.

'I beg your being good enough to send for the subscription money for the Journal to Hollanders and Arbuthnot: it happened once (just one year ago) that I was obliged to pay 9l. 17s. for four numbers of your Journal, *postage* from Calcutta to London: it was sent me from thence to Vienna by an Austrian Courier: I made all kind of remonstrances, but without success. "*Pamphlets only*" not having been written on the address, the Post Master General would not hear of a reclamation.'

'C. II. HUGEL.'

[Some desultory conversation took place before the Meeting separated, as to the interruption of the Meteorological Register so long published in the Society's Journal. It has been kept chiefly by Mr. GREENWAY, an assistant in the Calcutta Assay Office, who was trained by Mr. PRINSEP to the use of his unrivalled instruments, and to the correction of their indications by special tables now in Mr. GREENWAY's possession, which Mr. PRINSEP had, moreover, as a parting request, urged Mr. GREENWAY not to discontinue observations which had acquired standard value in the estimation of all meteorologists. Mr. CURNIN, the acting Assay-Master, has however deemed it necessary to prohibit Mr. GREENWAY's devoting any portion of his time to this employment, and Mr. CURNIN is further unwilling to allow Mr. PRINSEP's instruments to be removed from the Mint to any other establishment. Under these circumstances, Mr. REES, of the Surveyor-General's Office, has most liberally permitted his Registers to be made use of by the Society. We have already published that for July the Barometrical observations are made with a first rate Troughton.

We have taken measures for having the instrument accurately compared with others which have been adjusted by the Royal Society's standard, and the reductions to 32° will be duly calculated for quarterly periods. We propose too to add to the Register a daily double observation of the boiling point of water, taken with an excellent Thermometer, recently sent out to Mr. JAMES PRINSEP's order. This seems to be a desideratum of much importance.

It is but justice, nevertheless, to Mr. CURNIN to add, that that gentleman considers the continuance of the observations to interfere with the duties of the Assay Office, and that he has offered to permit any competent person to attend at the Mint for the purpose. This arrangement, however, would be attended with so much expense and inconvenience, that it becomes absolutely impracticable.—EDS.]

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